AS/400 Advanced Series

Advanced Function Printing Utilities for AS/400 User's Guide

S544-5349-01

AS/400 Advanced Series

Advanced Function Printing Utilities for AS/400 User's Guide

S544-5349-01

Note!

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Second Edition (February 1998)

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About IBM Advanced Function Printing Utilities for AS/400

The IBM Advanced Function Printing Utilities for AS/400 (AFP/U), Version 4 Release 2, is a licensed program consisting of three integrated modules that provide support for Advanced Function Printing (AFP) applications on AS/400. This book describes how to use the AFP Utilities for AS/400. It includes detailed reference information as well as extensive examples.

This book consists of the following parts.

- **Introduction to IBM Advanced Function Printing Utilities for AS/400** introduces the concept of AFP Utilities for AS/400 and provides general information.
- **Overlay Utility** provides detailed information about the Overlay Utility, helps you decide how to use the Overlay Utility, and provides practical exercises.
- **Print Format Utility** provides detailed information about the Print Format Utility, and describes how to use the Print Format Utility with practical exercises.
- **Design Operation and Fonts** provides detailed information about designing elements in an overlay, in a record layout, and in a page layout. It also provides detailed information about the fonts that you can use for the Overlay Utility and Print Format Utility.
- **Resource Management Utility** provides detailed information about the Resource Management Utility, and describes how to use the Resource Management Utility with practical exercises.
- **Reference** describes the AFP Utilities for AS/400 commands, the limitations and restrictions of the AFP Utilities for AS/400 program, and provides problem analysis information.

Practice exercises described in the “Getting Started with ...” chapters enable you to quickly become familiar with AFP Utilities for AS/400. After the exercises, see the detailed information to do more complex tasks. The best resource for learning about AFP applications on AS/400 is the *AS/400 Guide to Advanced Function Presentation and Print Services Facility,* S544-5319.

The following AS/400 books contain information you may need.

CL Reference, SC41-4722, provides the information about the CL commands.

Printer Device Programming, SC41-4713, provides the information about printing on the AS/400 system.

Advanced Function Presentation: Printer Information, S544-3290, provides general information about AFP printers, their characteristics, and resident fonts.

For information about other AS/400 publications, see either of the following:

- The *Publications Reference* book, SC41-4003, in the AS/400 Softcopy Library.
- The *AS/400 Information Directory*, a unique, multimedia interface to a searchable database containing descriptions of titles available from IBM or from selected other publishers. The *AS/400 Information Directory* is shipped with your system at no charge.

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Who Should Use This Book

This book is intended for AS/400 users, such as system administrators, system programmers, and anyone who uses the AS/400 system.

Before you use this book, you should be familiar with the introductory material for using the AS/400 system. You do not need to understand how to use a high-level programming language to use AFP Utilities

Introduction to IBM Advanced Function Printing Utilities for AS/400

Chapter 1. What are the IBM Advanced Function Printing Utilities for AS/400? . . . 3
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Chapter 1. What are the IBM Advanced Function Printing Utilities for AS/400?

The IBM Advanced Function Printing Utilities for AS/400 (AFP/U), Version 4 Release 2, is a licensed program consisting three integrated utilities that provide support for Advanced Function Printing (AFP) applications on AS/400. These utilities enable you to create and manage electronic forms (overlays), to create and manage image resources, and to create AFP applications from AS/400 database files. The three AFP Utilities are:

Overlay Utility: Enables you to create electronic forms directly on AS/400 for use in AS/400 AFP applications. The Overlay Utility works with any AS/400 terminal, providing an interactive design interface. Overlay Utility functions include:

- Create AFP electronic forms from any AS/400 terminal
- Place text, lines, boxes, shading, bar codes, graphics, and page segments at any location on the overlay page
- Present text in a wide variety of fonts using either downloadable fonts (AS/400-resident) or printer-resident fonts
- Present text in either single byte character sets (SBCS) or double byte character sets (DBCS)
- Present text in four orientations (across, down, back, and up) and three formats (horizontal, vertical, and vertical right to left)
- Define horizontal and vertical lines, with control of line type (solid, dashed, or dotted) and line thickness
- Define boxes, with control over box type (solid, dashed, or dotted) and shading
- Define any of 14 standard bar code symbologies with control over sizing, human-readable information, and orientation. Supported bar codes are:
  - 3-of-9 code, MHI/AIM US-3
  - Interleave 2-of-5
  - MSI Plessey
  - Industrial 2-of-5
  - Codabar
  - UPC-A
  - UPC-E
  - EAN-8
  - EAN-13
  - Matrix 2-of-5
  - POSTNET
  - Code128
  - Japan Postal
  - Royal Mail
- Position overlay, page segment, and graphic elements by row/column or direct page offset in inches or centimeters.

Resource Management Utility: Provides full management of overlay and page segment (image) resources. Images scanned on a client workstation can be processed, resized, rotated, created, and printed. Resource Management Utility functions include:

- Manage overlays and overlay source files, including print and view options
- Create page segments from scanned image files, with sizing and rotation options

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- Manage page segments, including print support
- Convert overlays and page segments to file format for use with client workstation applications

Print Format Utility: Provides an interactive method for creating AFP printing applications directly from AS/400 database files. The Print Format Utility is similar to Query for AS/400, but the Print Format Utility is designed for creating AFP output, not reports. With the Print Format Utility, complex document applications that combine database-driven variable data with overlays, image, bar coding, fonts, and other document elements can be produced. Print Format Utility functions include:

- All of the text, box, line, bar code, graphics, and image functions supported with the Overlay Utility
- Ability to design a record layout and page layout
- Select records from a database file
- Place database fields anywhere in the record layout
- Place variable page segments (images) and graphics in the record layout
- Replicate the record layout across and down the page
- Select overlays to be added to each page
- Specify control breaks for selected fields in the database file

The AFP Utilities for AS/400 provide you the above AFP* functions on the AS/400 system interactively. You can perform your task by selecting options or typing choices on the menu display.

This chapter describes the following:

- What you can do with AFP Utilities for AS/400
- Functions of AFP Utilities for AS/400
- Requirements for use of AFP Utilities for AS/400

What You Can Do with AFP Utilities for AS/400

AFP Utilities for AS/400 enable you to print a document such as a business letter in only one step. In conventional printing, you must load letterhead paper into your printer, print the letter texts, and then manually sign the letter.

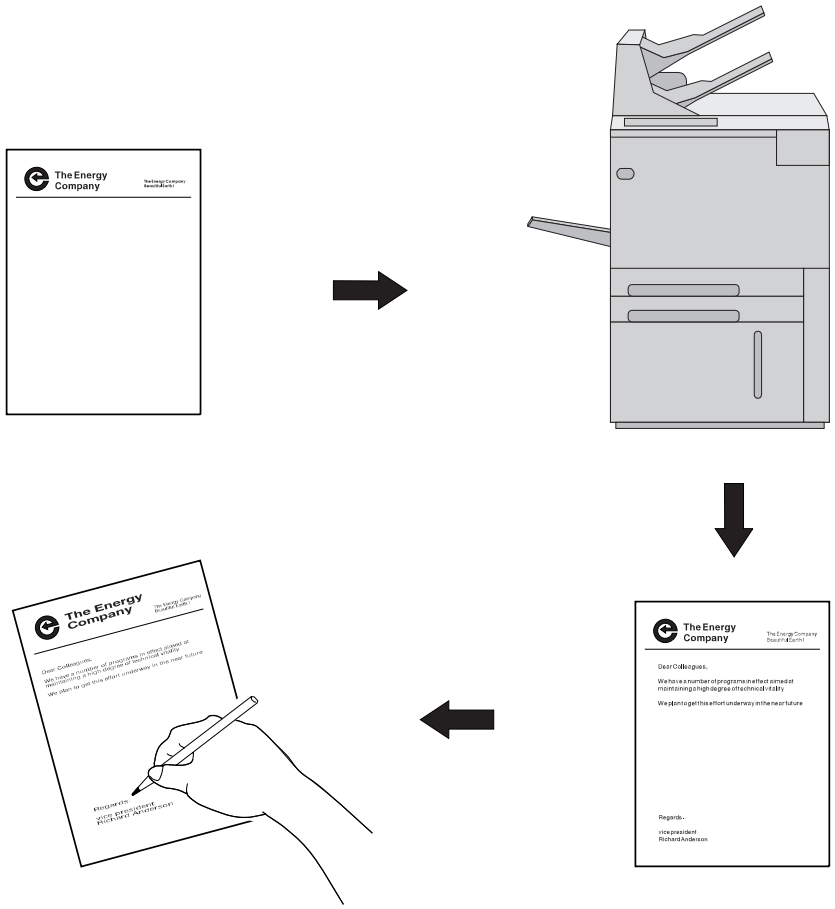

The Energy Company
The Energy Company
Dear Colleagues,
We have a number of programs in effect aimed at maintaining a high degree of technical vitality.
We plan to get this effort underway in the near future.
Regards,
vice president
Richard Anderson

Figure 1. Conventional Letter Preparation

With the AFP Utilities for AS/400, you can electronically store your letterhead and signature and print the letterhead, text, and signature all at the same time on blank paper already in your IPDS printer. You can also include graphics such as a line chart or bar chart in your letter, creating a composite document.

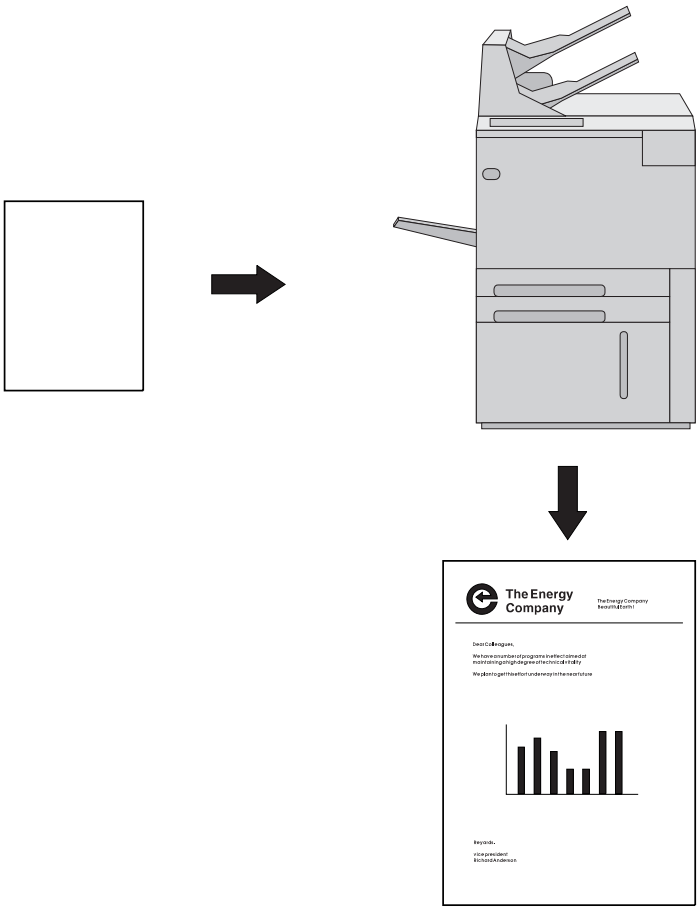


Figure 2. Letter Preparation Using AFP Utilities

The AFP Utilities provide flexible printing. For example, with AFP Utilities you can:

- Highlight a list of items by printing the list in a different type style from the remainder of the text.
- Print your letterhead in one font and your text in another font.

You can electronically store your letterhead so it always prints in the same style. This printing concept is described in “Using Overlays.”

Using Overlays

Overlays are stored constructs of text, boxes, lines, graphics, images, and bar codes with all the instructions needed to print. They are often in complex configurations. An overlay is always printed in the same format as it was stored in and can be positioned anywhere on the page.

Overlays are useful for letterheads and forms as shown in the following figure.

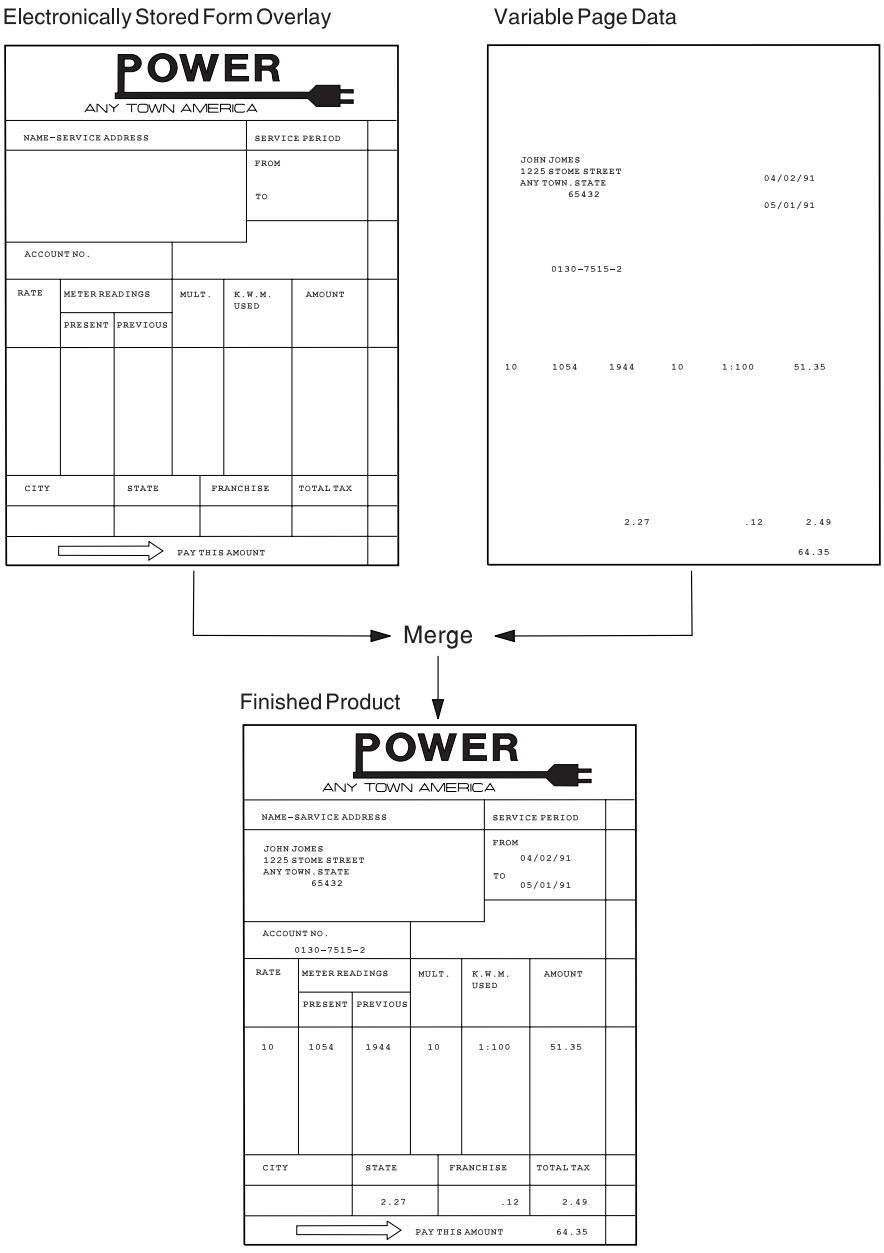


Figure 3. Using Overlays

Using Images

You can place images anywhere on the page.

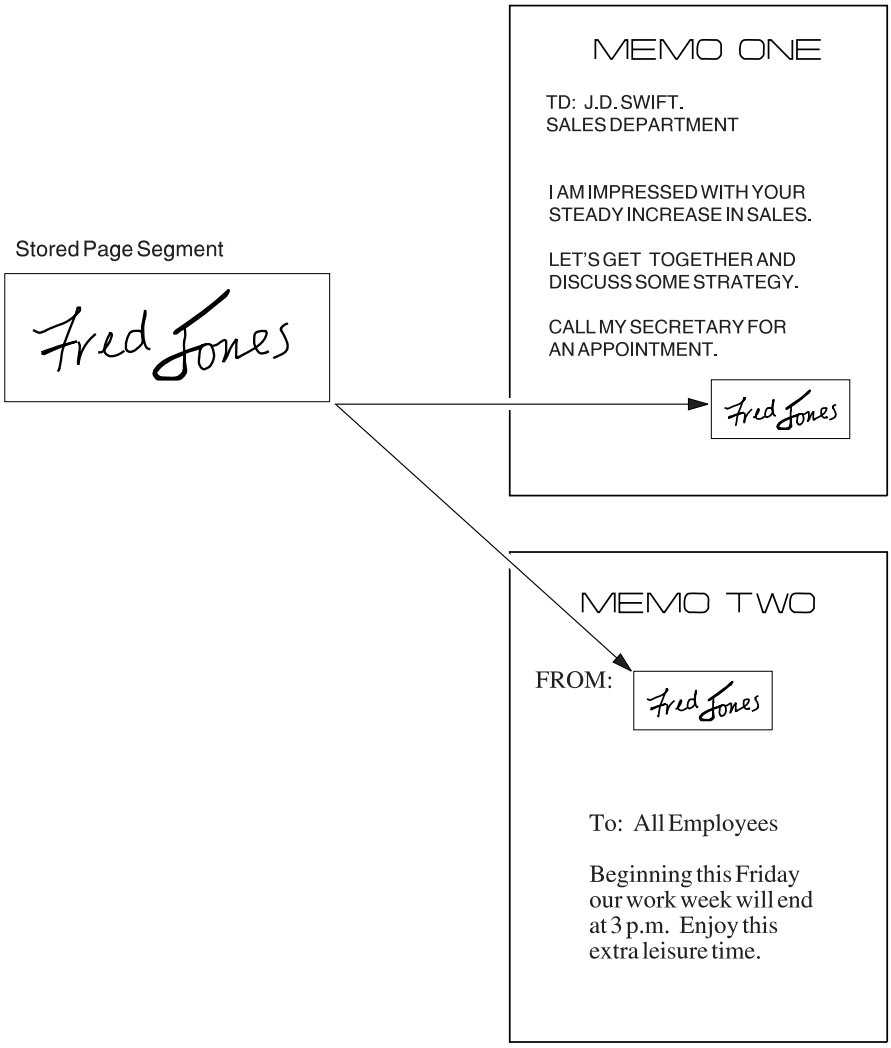


Figure 4. Using Page Segments

Using Bar Codes

Bar code data is encoded information that is recognized by optical scanning devices. The AFP Utilities for AS/400 can print various types of bar codes in any size and with variations, such as with or without the human readable interpretation (HRI) characters.

Using Graphics

The AFP Utilities for AS/400 can include the Graphics Data File (GDF). GDF can be created by OS/400* graphics or created by GDDM* on the System/390*. See Appendix D, “Using GDFs in AFP Utilities” on page 441 for more information.

Overlay Utility

The Overlay Utility enables you to create overlays (electronic forms). Once created, an overlay can be placed on pages of output using AS/400 printer file support, Data Description Specifications (DDS) in conjunction with High-Level Language (HLL) application programs, Advanced Print Utility, AS/400 page and form definitions, AFP Toolbox for AS/400, Print Format Utility, and other AFP document enabling applications. Figure 3 on page 7 shows how an overlay can be merged with data.

You can:

- Design an overlay interactively on a display screen.

  An overlay can contain text with several kinds of fonts, lines, boxes, images, bar codes, and graphics.
- Store the source data of the overlay (source overlay) that you designed in your file.
- Change the source overlay that was previously stored in the file.
- Create an overlay object from the source overlay.
- Print the overlay object that was created in the specified library.

Figure 5 shows a sample overlay.

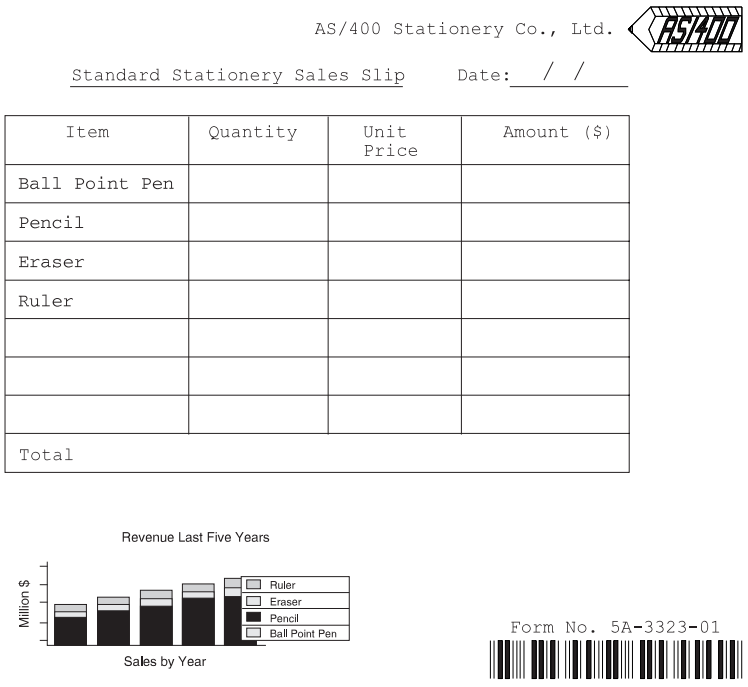


Figure 5. Sample Overlay (Created by the Overlay Utility)

Print Format Utility

The Print Format Utility provides the capability to develop AFP output applications directly from AS/400 database files. With the Print Format Utility, you can:

- Design your desired layout of a **record** interactively in the same way as the Overlay Utility.

  You can define headings, boxes, or logos which contain text, lines, boxes, images, bar codes, and graphics to be printed in addition to the data in the database file member.

  Figure 6 shows a sample label you can create from a record in a database file using the Print Format Utility.

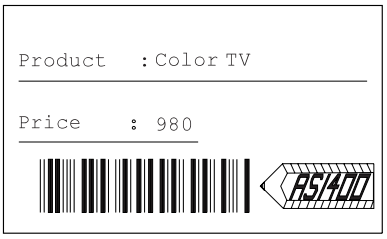


Figure 6. Sample Label (Created by the Print Format Utility)

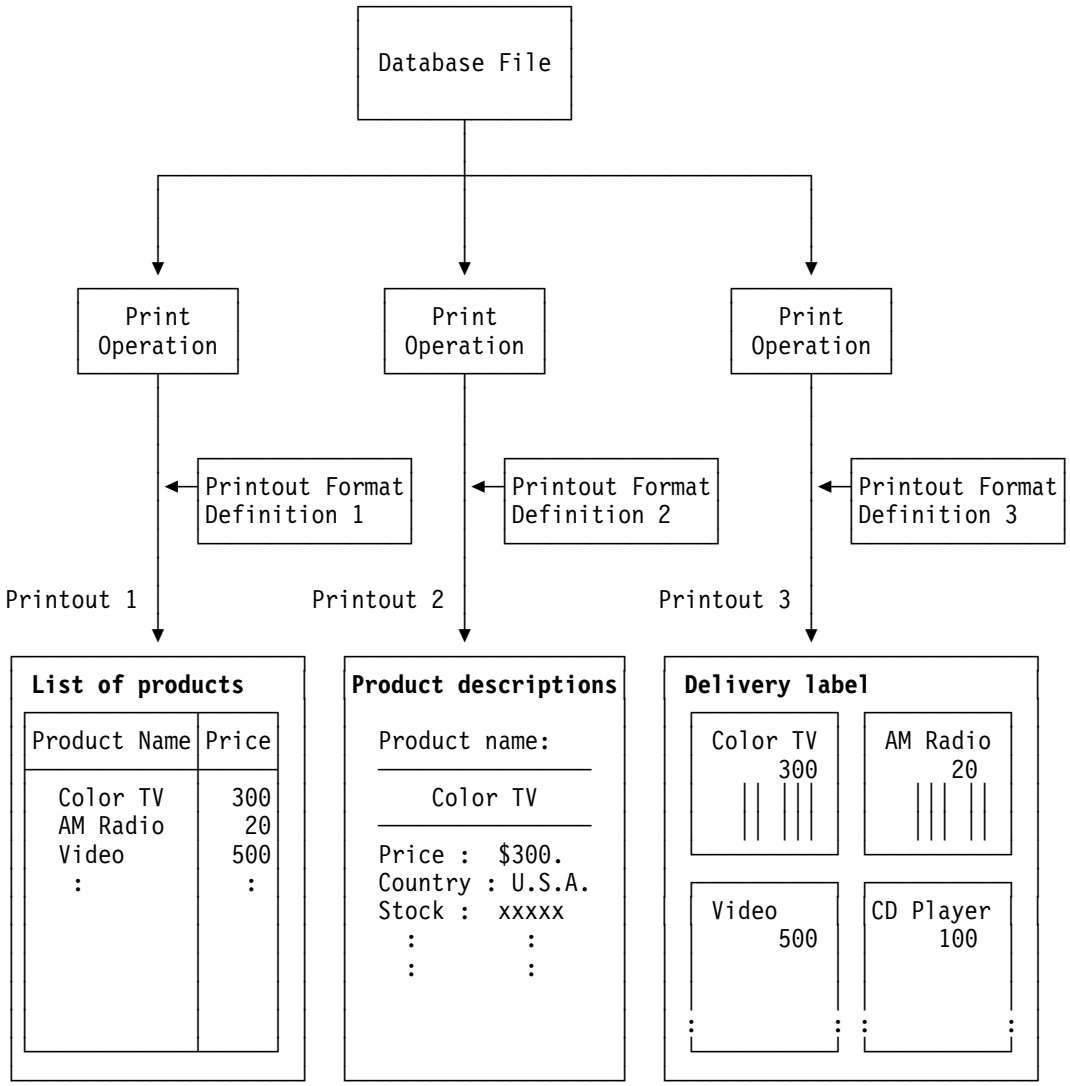
- Design a page layout interactively in the same way as in the Overlay Utility.

  You can define headings, boxes, or logos which contain text, lines, boxes, images, bar codes, and graphics to be printed.
- Save the record layout and page layout as a printout format definition in your file.
- Print a database file member according to the printout format definition.
- Replicate a record layout across and down the page such as in a multiple-up label application.

Figure 7 on page 11 shows a print sample of the labels you can create using the Print Format Utility.

Figure 7. Print Sample (Labels)

You can create various kinds of output from one database file member. For example, you can print a **list of products**, **product descriptions**, or even **delivery labels** as shown below from one database file member by using different printout format definitions.



Resource Management Utility

The images used by the Overlay Utility and the Print Format Utility (or any AFP application) are stored as **page segments** on AS/400. These images are normally scanned into a client workstation. The Resource Management Utility is an interactive tool to:

- Convert an image to a page segment.
- Convert a page segment to a physical file.
- Convert an overlay object to a physical file.
- Resize and rotate images as they are being created.

It also maintains AFP resource objects, such as page segments or overlay objects.

You can:

- Create a page segment from a physical file member.
- Create a page segment from a PC document.

- Convert a page segment or an overlay to a physical file member. (You can then transfer these AFP resource objects to other systems such as the System/370.)
- Copy, delete, rename, and print an overlay object, or display and change the description of an overlay object.
- Copy, delete, rename, and print a page segment, or display and change the description of a page segment.

AFP Resource and AFP Utilities for AS/400

There are five kinds of AFP resources. The following table describes the relationship between AFP resources and AFP Utilities for AS/400.

AFP Resource	AS/400 Object Type	Relationship to AFP Utilities
Overlay	*OVL	Create, change[1], copy, delete, print, rename, display and change description, and convert to a physical file.
Page segment	*PAGSEG	Create[2], copy, delete, print, rename, display and change description, and convert to a physical file.
Form definition	*FORMDF	A form definition[3] name or special value *INLINE can be specified for printing database file members.
Page definition	*PAGDFN	No relation
Font	*FNTRSC	Font resources, both AS/400-resident and printer-resident, are used to print text within the Overlay Utility and the Print Format Utility.

Note:

[1] means that an AFP Utilities for AS/400 source overlay is used.
[2] means that a physical file or a PC document is used.
[3] The Form definition option can be specified when printing a database file member or when defining printout specifications for PFD Definitions.

Requirements for Use of the AFP Utilities for AS/400

To use the AFP Utilities for AS/400, the following hardware and software products are required.

Hardware Requirement

- Any model of AS/400.
- Any model of a 5250 display terminal or 5250 emulated work station that supports an 80 x 24 display size.

  For DBCS support, a DBCS display work station is required.
- One of the following IPDS printers is required:
  - 4224, 4230, 4234-12, 4230-102, 4247, 6400, 6404, 6408, 3130, 3160, 3812, 3816, 3930, 3112, 3116, 4312, 4317, 3912, 3916, 3931, 3935 and 4028 with the Arctic attachment
  - 3820 with SNA LU6.2 (SDLC attachment)

– 3820, 3825, 3827, 3829, 3831, 3835, and 3900 with the SNA LU6.2 (Token Ring attachment through Remote Print Manager on Personal Computer AT* or Personal System/2*)

Software Requirement

- OS/400 Version 4 Release 2.0.
- Print Services Facility for 400, Version 4 Release 2.0 (5769-SS1), for printing to IPDS printers. Overlays and AFP applications created by AFP/U can also be printed on HP-PCL printers if transformed first by the Host Print Transform, which is an integrated print subsystem of OS/400.
- Support for accessing image files on a client workstation through a program such as Client Access for AS/400.
- AS/400-resident AFP fonts as required by overlays and Print Format Utility applications. Fonts are available in 240 dot per inch (dpi), 300 dpi, and outline fonts with AFP Font Collection (5468-113), in both SBCS (single byte character set) and DBCS (double byte character set) versions.

AFP Utilities Fundamentals (Concepts)

This section describes the concepts and terminology used in AFP Utilities for AS/400.

Libraries, Files, and Members

Information or data is organized and stored on your system in various forms. When you work with AFP Utilities for AS/400, you need to understand the relationship between libraries, files, and members on the AS/400. A library is a place on the system to store files and objects. A file contains one or more members. When a file is copied to another file, all the members that are contained in the original file are copied to the new file also. When a file is erased, all the members that are contained in the original file are erased also.

Figure 8 shows the relationship of the members and the files in the library.

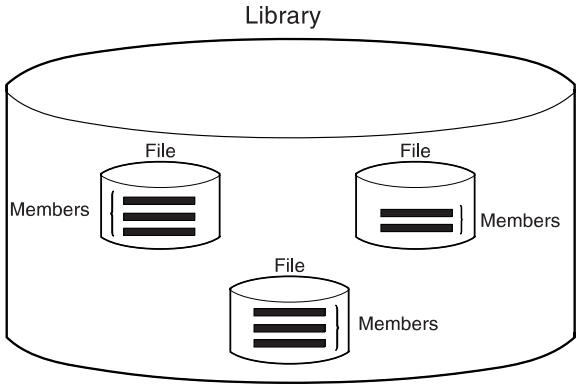


Figure 8. Members and Files in a Library

When you create a member such as a source overlay or a printout format definition (PFD definition), you need to create a library and a file (a source overlay file or a PFD definition file) in advance to store the member.

Elements

The **elements** are text, lines, boxes, bar codes, page segments, and graphics that are defined in a source overlay and a printout format definition. In a page layout of a printout format definition, you can define a record as an element.

See Chapter 13, “Design Operation” on page 219 for more information about defining elements in a source overlay and a printout format definition.

AFP Utilities for AS/400 Displays

Several types of displays are shown when you use the AFP Utilities for AS/400.

Menu Display

When you start AFP Utilities for AS/400 by entering the `STRAFPU` command, the menu for IBM Advanced Function Printing Utilities for AS/400 is shown. You can start any function of AFP Utilities for AS/400 from this menu.

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> ____________________________________________________________________

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F16=System main menu
(C) COPYRIGHT IBM CORP. 1991, 1996.
```

Figure 9. Menu for the IBM Advanced Function Printing Utilities for AS/400

Work with Display

To indicate fields on the Work with display, two different words are used in this manual. They are **prompts** and **columns**.

Prompts: A prompt is a request for information on a display that allows you to type a response. For example, the *File*, *Library*, *Source overlay*, and *Position to* fields are prompts on the Work with Source Overlays display.

When *F4 for list* is shown to the right of the prompt, you can show a list by placing the cursor in the field and pressing the F4 key.

Columns: A column is either a request for information or lines of information that define certain fields in a list. For example, the *Opt*, *Source Overlay*, *Text*, and *Changed* fields are columns on the Work with Source Overlays display.

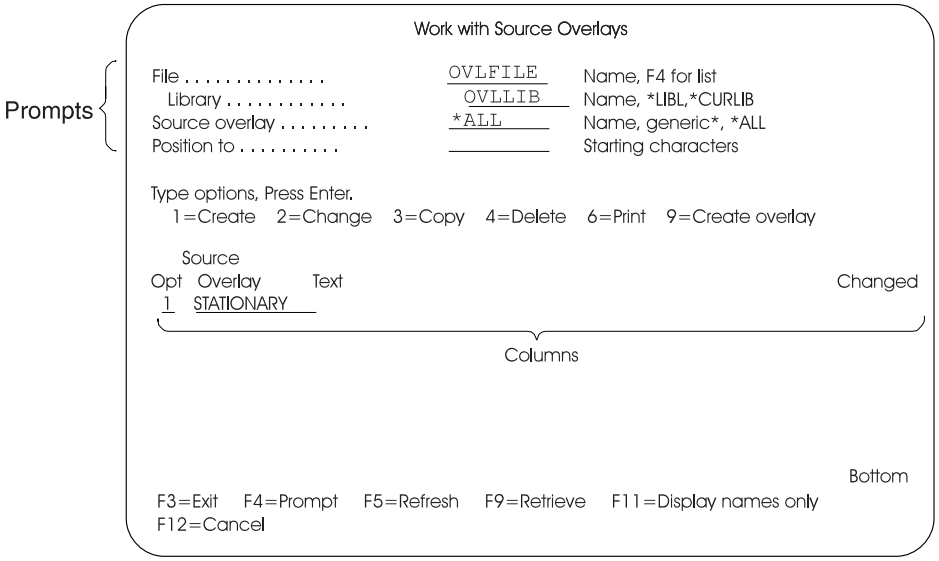

Work with Source Overlays
Prompts
File . . . . . OVLFILE Name, F4 for list
Library . . . . . OVLLIB Name, *LIBL,*CURLIB
Source overlay . . . . . *ALL Name, generic*, *ALL
Position to . . . . . Starting characters
Type options, Press Enter.
1=Create 2=Change 3=Copy 4=Delete 6=Print 9=Create overlay
Source
Opt Overlay Text Changed
1 STATIONARY
Columns
Bottom
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F11=Display names only
F12=Cancel

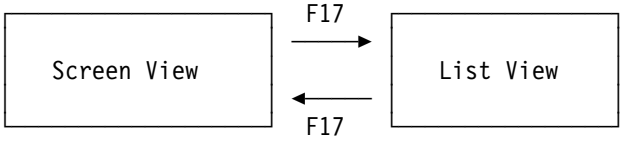
Figure 10. Prompts and Columns on the Work with Source Overlays Display

Design display

The following Design displays are available:

- Design Overlay display
- Design Record Layout display
- Design Page Layout display

The Design display has two views. One is the **screen view** and the other is the **list view**. You can switch the view from one to the other by pressing the F17 key.



Screen View: In the screen view, an approximate print image is displayed in the upper part of the screen called the **image area**. You can design an overlay, a record layout, and a page layout while viewing the approximate print image being created on the display. When you enter the Design display, the display is initially set to the screen view.

In the screen view, the display is divided into the **image area** and the **key entry area** when you define or change an element as follows:

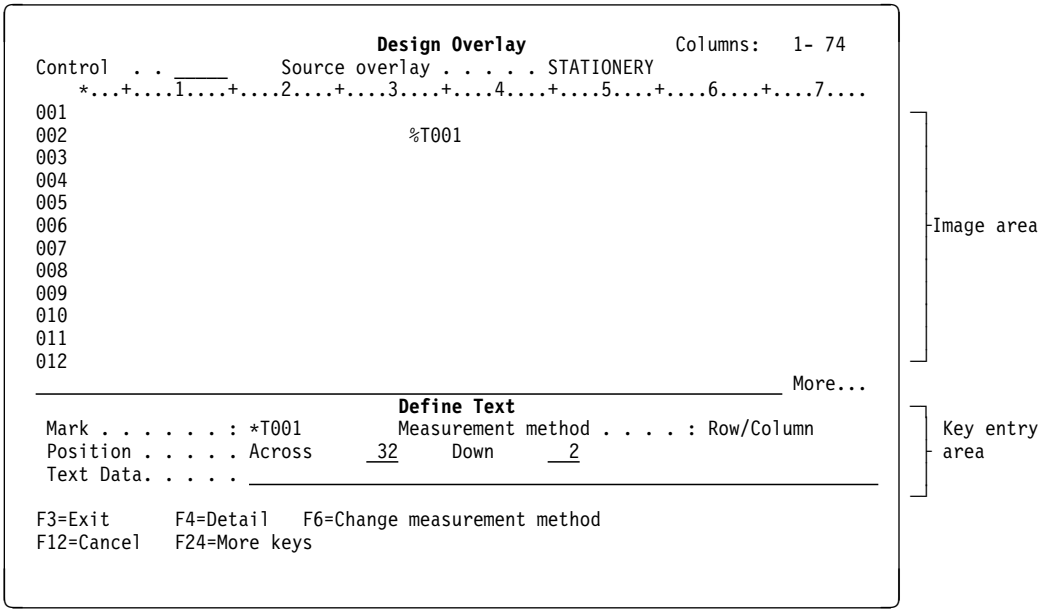


Figure 11. Design Display

See “Defining Elements in the Screen View” on page 222 for more information.

List view: In the list view, all element definitions are listed on the display in the order of the sequence number unless the list has been sorted using F4=Sort. The list can be sorted by the sequence number (NBR), name, or across or down position. Each line describes one element. The intended use of the list view is to view elements that are already designed and to make changes to the elements. However, list view can also be used to define, copy, move, or remove elements. You may easily find an element because you can see part of the definitions such as the bar code data and the page segment name that are not displayed on the image area in the screen view. You can switch to the screen view by pressing F17. See “Changing Elements in the List View” on page 282 for more information.

Function Keys

You can use the available function keys on each display in AFP Utilities for AS/400 to perform specific tasks. For example, if you press F12, the display changes to the one you worked on before the current display appeared.

Note: The functions available for your use are shown at the bottom of the display. If both lines show function keys, there may be additional ones that are not shown. To see a complete list of function keys supported on a display, press F24 to show the remaining keys, or position the cursor in the function key area of the display and press the Help key.

On the Design display, some function keys work differently depending on the situation. See “Function Keys on the Design Display” on page 227 for the description about the function keys supported on the Design displays.

Figure 12. Summary of AFP Utilities Function Keys

Work Station Key	Key Name	Description
F1 or Help	Help	Shows additional information about a field, display, or message.
F3	Exit	Ends the current task and returns to the display where you started.
F4	For list or Prompt	Shows a list of items you can select if the cursor is on a field that supports F4 for list. You can type a command on the command line and press F4 to show the prompt display of the command. On the command prompt display, you can press the F4 key to see a list of possible entries for the field where the cursor is positioned.
F5	Refresh	Restore the input fields of the display to their original values. If there is a list of information on the display, the list is updated to reflect the latest information of the system.
F6	Change measurement method	Change the measurement method used to specify the position and other fields, such as width and height, between row/column and inch/centimeter.
F11	Alternate view	If there is a list of information on the display and the list has another format, the list is changed to the other format. For example, on the Work with Source Overlays display, by pressing F11, the Text disappears and additional source overlay names are shown on the display.
F12	Cancel	Quits the current display. Any information entered is ignored. The previous display appears.
F24	More keys	Shows the next set of function keys available for the display.
Enter	Enter	Submits information on the display for processing.
Roll Up (Page Down)	Roll Up (Page Down)	Moves forward to show additional information for this display or another message.
Roll Down (Page Up)	Roll Down (Page Up)	Moves backward to show additional information for this display or another message.
Print	Print	Prints information currently shown on this display.
Sys Req	System Request	Interrupts the job you are currently working on and shows a menu from which you can do various tasks.

Related Online Information

The following online information is available on the AS/400 system. After pressing the Help key on any menu, press the Help key a second time to see an explanation of how the online information works, including the InfoSeeker function. You can press either the Help key or F1 for help.

Help for Displays

You can press the Help key on any display to see information about the display. Two types of help are available:

Contextual
Extended

Contextual help explains the field on which the cursor is positioned when you press the Help key. For example, it describes the choices available for a prompt. If a system message appears at the bottom of the display, position the cursor on the message and press the Help key to see information about the cause of the message and the appropriate action to take.

Extended help explains the purpose of the display. Extended help appears if you press the Help key when the cursor is outside the areas for which contextual help is available, or if you press F2 (Extended help) when you are looking at the contextual help.

To exit the online information, press F3 (Exit). You return to the display where you pressed the Help key.

InfoSeeker

InfoSeeker is the OS/400 implementation of the IBM BookManager Read architecture; InfoSeeker provides access to online books from any workstation. It provides powerful search and retrieval functions and allows the grouping of information to meet individual installation needs. InfoSeeker can read any book created by the IBM BookManager BUILD license programs (available for VM, MVS, and OS/2 systems).

To use InfoSeeker, press the Help key, then press F11 (InfoSeeker). You can also use InfoSeeker by selecting option 20 (InfoSeeker) on the GO INFO menu.

Help for Control Language Commands

To see prompts for parameters for a control language command, type the command, then press F4 (Prompt) instead of the Enter key. To see extended help for the command, type the command and press the Help key. You can see contextual help for CL commands also.

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Chapter 2. Introduction to the Overlay Utility

The **Overlay Utility** is one of the AFP Utilities that allows you to create electronic form overlays, which can always be printed in their stored format and can be positioned anywhere on the page.

Using the overlay utility, you can:

1. Design an overlay interactively on a display.

   The information you defined for an overlay is called a **source overlay**.

2. Save a source overlay in your file.
3. Create an **overlay object** from a source overlay, which can be printed on the IPDS printers.

You can change the design of the overlay by changing the source overlay.

Notes:

1. You cannot directly change the overlay object. You need to change the source overlay and create the overlay object from it.
2. You can work with the overlay object using the resource management utility.

   See Chapter 19, “Work with Overlays Function” on page 333 for more information.

Print Form and Overlay

You can merge the overlay object with various spooled files as your final printout. You can use overlays at any time you want on various types of forms. Thus, you can eliminate the use of preprinted paper forms.

The overlay can be composed of text, images, graphics, lines, boxes, and bar codes called **elements**. All of the environmental data (such as font references) is defined as a part of the overlay definition. The fonts defined for the overlay are not influenced by the fonts used for the variable data on the logical page.

The basic function of the overlay is to provide a template-like pattern that establishes fixed data for merging with various spooled files.

For each element, you must specify its position and the horizontal and vertical distances from the overlay origin. You can also specify the offset, and horizontal and vertical distances of the overlay origin from the origin of the page. The initial values are set to zero offset in both directions, which means the overlay origin will coincide with the page origin. This eliminates the need for preprinted paper forms.

Figure 13 on page 24 shows a sample overlay.

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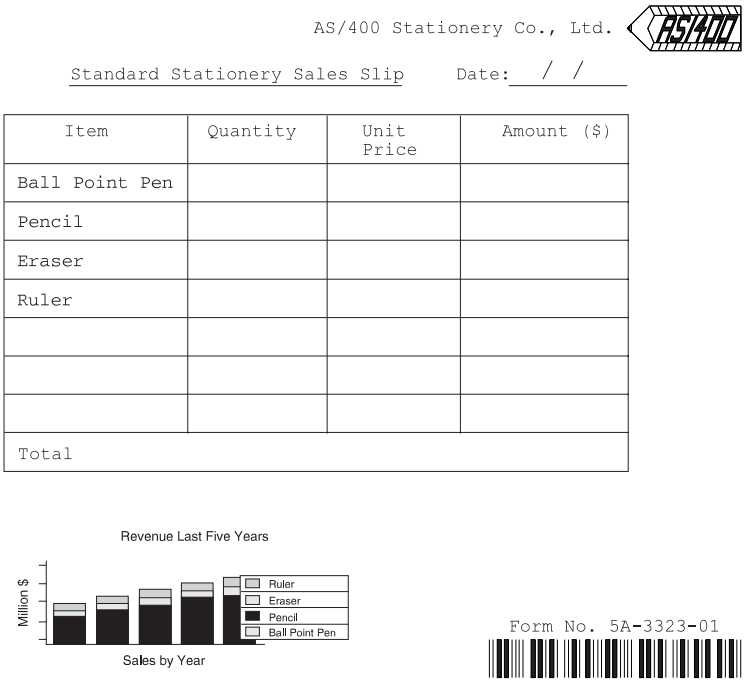

Figure 13. Sample Overlay

Source Overlay

A source overlay provides the necessary information to create an overlay object that can be printed on an IPDS printer.

The following information must be provided in a source overlay.

Overlay Specifications

The specifications contain characters per inch, lines per inch, degree of rotation, default element measurement method, and so on.

Overlay Fonts

Fonts are predefined, but can be changed.

Design Overlay

An overlay image can be designed in a source overlay. The following elements can be placed or defined in a source overlay.

Text Text, such as ABCDE, specified in an overlay is called a text element. It can be placed at any specified position on the overlay. The text attributes may also be specified to describe the text characteristics such as font selection, vertical and horizontal format, character size, overstrike, and color.

Line The line element is any straight line that connects two points either vertically or horizontally. You may select the type of line, such as dotted, dashed, or solid, and the line width.

Box The box element is a rectangle that is defined by the two diagonally opposite corners. It can be placed anywhere on the overlay. You can select the shade pattern inside the box, the type of box line (either dotted, dashed, or solid), and line width. You may define text inside the box. Optionally, the text may be justified inside the box.

Bar Code The bar code element is a set of bars and spaces of various width created from data by IPDS printers or AFP Utilities. It can be placed at a specified position on the overlay. You can specify the following:

- Bar code data
- Placement position
- Type of bar code
- Size
- Color
- Whether or not to print a human-readable interpretation (HRI),
- Whether or not to include a check digit.

Page Segment A page segment is an image in the AFP resource library. You can refer to a page segment by its name and specify the print position to define it as an overlay element. You can include the same page segment repeatedly in an overlay.

Graphic A graphic is an image constructed by vector data. Graphics can be created by using AS/400 GDDM (Graphical Data Display Manager) or Business Graphics Utility. A graphic is stored on AS/400 as a graphic data file. or AS/400 GDDM and stored in an AS/400 file. You can refer to a graphics by its file and library name and specify an area that is defined by the two diagonally opposite corners to define it as an overlay element. See Appendix D, “Using GDFs in AFP Utilities” on page 441 on how to create GDF files.

You can select any of the overlay elements above and place them at the desired positions to define the overlay.

Operation Flow

Figure 14 on page 26 shows an overview of the overlay utility operation and how to create an overlay.

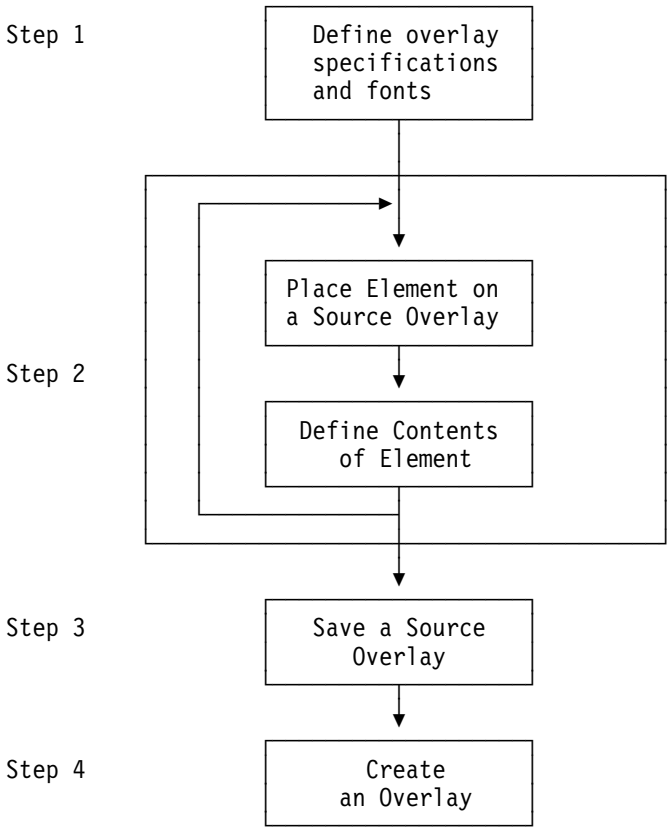

Figure 14. Overview of Overlay Utility Operation

Step 1. This is an optional step.

You can change the default values of the overlay specifications. These include printer type, characters per inch (CPI), lines per inch (LPI), degree of rotation, unit of measure, default data elements measurement method, overlay size, offset, and a grid to help design the overlay. See "Define Overlay Specifications" on page 64 for more information.

You can change the fonts used to print text. See Chapter 14, "Work with Fonts" on page 289 for more information.

Step 2. Design your overlay.

Repeat the following operations:

a. Position the cursor on the screen where you want to enter an element, such as text, box, and so on.

b. Place an element in the overlay by pressing the function key assigned for the element.

c. Type the element specification. After entering the data, a mark is assigned for the element by the overlay utility. The mark is placed at the element position on the screen.

See Chapter 13, "Design Operation" on page 219 for more information.

Step 3. After designing the overlay, save it as a source overlay in your library. The overlay utility prompts you to specify the source overlay and library name in which to save the source overlay. See "Saving a Source Overlay" on page 71 for more information.

Step 4. Create an overlay object from this source overlay and save it in the AFP resource library. See “9=Create Overlay” on page 77 for more information.

The following chapters show you how to:

- Get started with the Overlay Utility and use it practically by performing an exercise.
- Start and end the overlay utility.
- Work with a source overlay
  - Create a source overlay
    - Define overlay specifications
    - Work with source overlay fonts
    - Design overlay
  - Change a source overlay
  - Copy a source overlay
  - Delete a source overlay
  - Rename a source overlay
  - Print a source overlay
  - Create an overlay
- Work with a source overlay file.
  - Create a source overlay file
  - Change a source overlay file description
  - Copy a source overlay file
  - Delete a source overlay file
  - Rename a source overlay file
  - Display a source overlay file description

While using IBM Advanced Function Printing Utilities for AS/400, you can press the F1 key to display help information.

Chapter 3. Getting Started with the Overlay Utility

This chapter describes how to create an overlay with the Overlay Utility by showing a practical exercise.

The operational steps of creating an overlay with the Overlay Utility are as follows:

Step 1. Starting the Overlay Utility.

Step 2. Creating a source overlay file in a library.

Step 3. Creating a source overlay in the previously created source overlay file.

This step consists of the following sub-steps:

a. Designing a source overlay
   1) Defining a text element
   2) Defining a line element
   3) Defining a box element
   4) Defining a bar code element
   5) Placing a graphics element
b. Viewing the overlay with the AFP Workbench Viewer
c. Saving the source overlay

Step 4. Changing a source overlay.

This step consists of the following sub-steps:

a. Designing a source overlay, including placing a page segment.
b. Saving the source overlay.
c. Creating an overlay from a source overlay

Step 5. Using an overlay.

Notes:

1. Some printers do not support bar code and graphics architectures. If your printer does not support graphics, you should not place graphics in a source overlay. If your printer does not support bar codes, you should specify your printer type on the Define Overlay Specifications display in the "Creating a Source Overlay" step. AFP Utilities for AS/400 generates appropriate data to print a bar code on those printers. See “Limitations for Each Printer” on page 414 to check if your printer supports them.
2. To perform the following task, you need a page segment and a physical file. Page segment QFCLOGO and physical file QAFCGRPH should exist in library QGPL. If they do not exist, copy page segment QFCPAGS and physical file QAFCGDF from library QAFP to library QGPL as page segment QFCLOGO and physical file QAFCGRPH. You can use the Create Duplicate Object (CRTDUPOBJ) command to accomplish this.

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Step 1 - Starting the Overlay Utility

Example Actions:

1. Type `STRAFPU` on the command line.
2. Press the Enter key.

The IBM Advanced Function Printing Utilities for AS/400 menu appears.

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> 2
_____________________________________________________________________________
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F16=System main menu
(C) COPYRIGHT IBM CORP. 1991, 1996
```

From this display, you can select any function of AFP Utilities for AS/400.

The overlay utility functions are:

Option	Function
1	Work with source overlays
2	Work with source overlay files

Before you create a source overlay, you must create a source overlay file to store it.

Note: You need a library to create a source overlay. OVLLIB is used in the following example, but you may use the name of your library instead. If you do not have any libraries, create a library by typing `CRTLIB OVLLIB` on the command line and pressing the Enter key.

Step 2 - Creating a Source Overlay File

Example Actions:

1. Type 2 on the command line.
2. Press the Enter key.

The Work with Source Overlay Files display appears.

```
                        Work with Source Overlay Files

Type choices, press the Enter key.

Library  . . . . . .  .  OVLLIB      Name, *USRLIBL, *LIBL
                                     *CURLIB, *ALLUSR, *ALL
File . . . . . .  .  .  .  *ALL      Name, generic*, *ALL

Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F12=Cancel
```

Example Action: Type OVLLIB in the *Library* prompt and press the Enter key to list source overlay files stored in OVLLIB.

```
                        Work with Source Overlay Files

Library . . . . . .  .  OVLLIB      Name, *USRLIBL, *LIBL, *CURLIB...
File  . . . . . .  .  .  *ALL       Name, generic*, *ALL
Position to . . . . . .  _____      Starting characters

Type options, press Enter.
  1=Create   2=Change     3=Copy   4=Delete   7=Rename
  8=Display description   12=Work with source overlays

Opt  File        Library     Text                          Changed
1    OVLFILE     OVLLIB

  (No source overlay files in library)

                                                                  Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

Note: No source overlay file is shown because no source overlay file is stored in OVLLIB.

Example Actions

1. Type 1 (Create) in the *Opt* column on the first line of the list.
2. Type `OVLFILE` in the *File* column on the first line of the list.
3. Type `OVLLIB` in the *Library* column on the first line of the list.
4. Press the Enter key.

The Create Source Overlay File display appears.

```
                          Create Source Overlay File

File . . . . . :   OVLFILE
  Library  . . . . . :     OVLLIB

Type choices, press Enter.

  User specified DBCS data . .   N              Y=Yes, N=No
  Text 'description' . . . . .   Source overlay file for exercise
____
  Authority  . . . . . .  .      *LIBCRTAUT     Name, *LIBCRTAUT, *ALL
                                                *CHANGE, *EXCLUDE, *USE

F3=Exit   F5=Refresh   F12=Cancel
```

From this display you can specify:

- Whether or not you use DBCS data (this prompt is only displayed on DBCS systems)
- A short description of the source overlay file up to 50 SBCS characters long. This description is saved with the source overlay file and displayed when the source overlay files are listed to help you to identify the source overlay files.
- Authority given to users who do not have specific authority to the source overlay file.

Example Actions

1. Do not change the default value for the *User specified DBCS data* prompt.

   Note: This prompt field appears only when your system is DBCS capable.
2. Type `Source overlay file for exercise` for the *Text 'description'* prompt.
3. Press the Enter key.

The Work with Source Overlays display appears.

Step 3 - Creating a Source Overlay

In this step, an overlay is designed by creating a source overlay.

```
                          Work with Source Overlays

File  . . . . . .  .   OVLFILE     Name, F4 for list
  Library . . . . . .    OVLLIB     Name, *LIBL, *CURLIB
Source overlay  . . . .  *ALL       Name, generic*, *ALL
Position to . . . . . .  _____      Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   6=Print   7=Rename
  9=Create overlay
     Source
Opt  Overlay     Text                                          Changed
 1   STATIONERY

  (No source overlays in file)



                                                                  Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

Example Actions

1. Type 1 (Create) in the *Opt* column in the first line of the list.
2. Type STATIONERY in the *Source Overlay* column in the first line of the list.
3. Press the Enter key.

Note: Unless it is changed, the first 8 characters of the source overlay name will be used for the overlay (object) name when you create an overlay (object) using option 9 (Create overlay). Any remaining characters are discarded.

The Create Source Overlay display appears.

```
                          Create Source Overlay

File . . . . . :   OVLFILE
  Library  . . . . . :     OVLLIB
Source overlay . . . . . :   STATIONERY

Type options, press Enter.
  1=Select

Opt      Action
 _       Define overlay specifications
 _       Work with source overlay fonts
 1       Design overlay









F3=Exit   F5=Refresh   F9=Select all   F12=Cancel
```

Example Action

1. Press the Enter key.

The Design Overlay display appears.

In this example, source overlay STATIONERY in OVLFILE is being used to design an overlay.

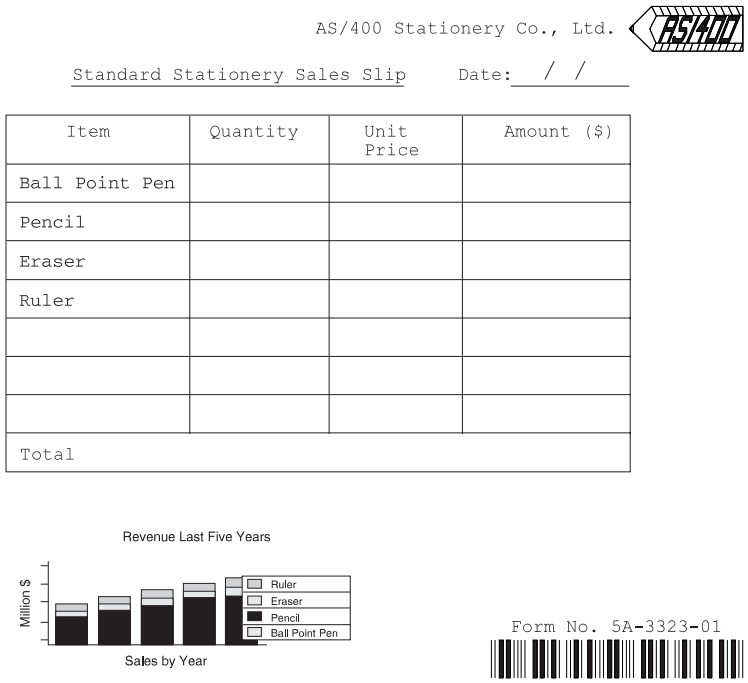


Figure 15. Sample Overlay

Defining a Text Element

```
                              Design Overlay              Columns:   1- 74
Control  . . _____     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017                                                                   More...
_____________________________________________________________________________
F3=Exit         F6=Text           F9=Line          F10=Box
F11=Bar code    F21=Element edit  F22=Block edit   F24=More keys
```

Example Actions

1. Move the cursor to the position (Across : 32, Down : 2) where you want to place the text.
2. Press the F6 key.

Mark `%T001` to indicate a text element appears in the image area and the key entry area appears on the lower part of the display.

```
                              Design Overlay              Columns:   1- 74
Control  . . _____     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                %T001
003
004
005
006
007
008
009
010
011
012
                                                                        More...
                                  Define Text
 Mark . . . . . . . : *T001         Measurement method . . . . : Row/Column
 Position . . . . . Across      32     Down      2
 Text data  . . . . AS/400 Stationery Co., Ltd.

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

Example Actions

1. Type `AS/400 Stationery Co., Ltd.` in the *Text data* prompt.
2. Press the Enter key.

The following display appears.

```
                              Design Overlay              Columns:   1- 74
Control  . . _____     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                *T001  Stationery Co., Ltd.
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

Example Actions: Define another text element.

1. Move the cursor to position (Across : 10, Down : 4).
2. Press the F6 key.
3. Type `Standard Stationery Sales Slip      Date:   /  /` on the *Text data* prompt in the key entry area.
4. Press the Enter key.

The following display appears.

```
                                 Design Overlay              Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                  *T001  Stationery Co., Ltd.
003
004          *T002 rd Stationery Sales Slip     Date:    /  /
005
006
007
008
009
010
011
012
013
014
015
016
017                                                                    More...
_____________________________________________________________________________
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

Defining a Line Element

Example Actions

1. Move the cursor to position (Across : 10, Down : 5) to start defining a line.
2. Press the F9 key.

The following display appears.

```
                                 Design Overlay              Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                 *T001  Stationery Co., Ltd.
003
004          *T002 rd Stationery Sales Slip     Date:    /  /
005          %L003
006
007
008
009
010
011
012
013
014
015
016
017
                                                                          More...
F3=Exit           F5=Refresh   F9=Line    F12=Cancel
F15=Mark on/off   F16=Hide     F19=Left   F20=Right
Specify opposite end of line and press F9.
```

Example Actions

1. Move the cursor to position (Across : 39, Down : 5) to define the end of the line.
2. Press the F9 key.

The key entry area appears on the display.

```
                                 Design Overlay              Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                 *T001  Stationery Co., Ltd.
003
004          *T002 rd Stationery Sales Slip     Date:    /  /
005          %L003 ------------------------
006
007
008
009
010
011
012
                                                                          More...
                                    Define Line
 Mark . . . . . : *L003          Measurement method . . . . : Row/Column
 Start position . . Across      10     Down      5
 End position . . . Across      39     Down      5

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

Example Action: Press the Enter key to define the line element in the source overlay.

The following display appears.

```
                                Design Overlay              Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                 *T001  Stationery Co., Ltd.
003
004          *T002 rd Stationery Sales Slip     Date:    /  /
005          *L003 ------------------------
006
007
008
009
010
011
012
013
014
015
016
017
                                                                          More...
_____________________________________________________________________________
F3=Exit         F6=Text             F9=Line           F10=Box
F11=Bar code    F21=Element edit    F22=Block edit    F24=More keys
```

Mark %L003 changes to *L003 in the display to show that the line is correctly defined.

Defining a Box Element

Example Action: Move the cursor to position (Across : 5, Down : 7) to start defining a box, and press the F10 key.

The following display appears.

```
                                Design Overlay              Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                 *T001  Stationery Co., Ltd.
003
004          *T002 rd Stationery Sales Slip     Date:    /  /
005          *L003 ------------------------
006
007     %B004
008
009
010
011
012
013
014
015
016
017
                                                                          More...
_____________________________________________________________________________
F3=Exit           F5=Refresh   F10=Box    F12=Cancel
F15=Mark on/off   F16=Hide     F19=Left   F20=Right
Specify opposite corner of box and press F10.
```

Example Actions

1. To specify the opposite corner of the box, press the Page Down (Roll Up) key two times.
2. Move the cursor to position (Across : 60, Down : 26) to define the opposite corner of the box and press the F10 key.

The key entry area appears on the display.

```
                                Design Overlay              Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
017     :                                                     :
018     :                                                     :
019     :                                                     :
020     :                                                     :
021     :                                                     :
022     :                                                     :
023     :                                                     :
024     :                                                     :
025     :                                                     :
026     +-----------------------------------------------------+
027
028
                                                                          More...
                                  Define Box
 Mark . . . . . : *B004          Measurement method . . . . : Row/Column
 Start position . . Across      5     Down      7
 End position . . . Across      60    Down      26

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

Example Action: Press the Enter key to define the box element in the source overlay.

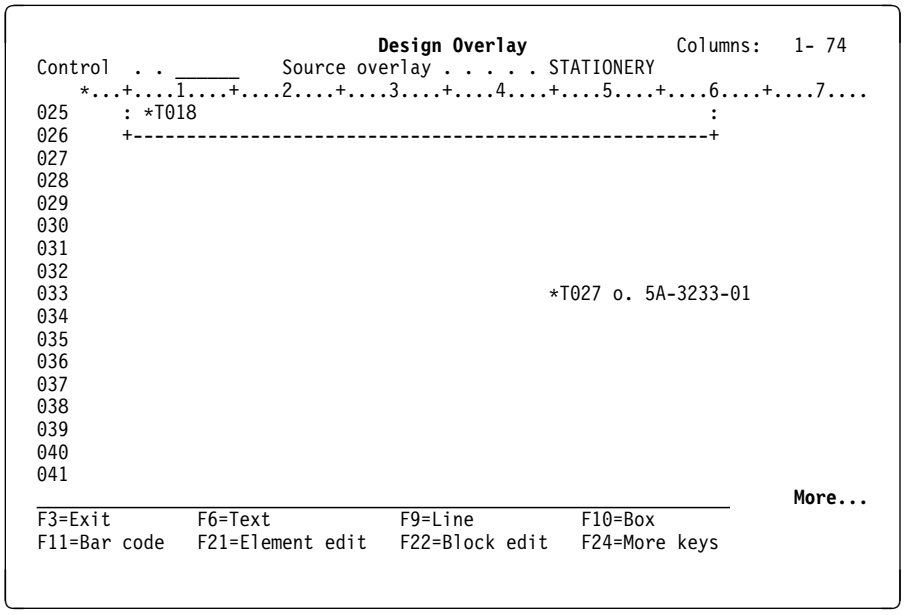
The following display appears.

```
                                Design Overlay              Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
017     :                                                     :
018     :                                                     :
019     :                                                     :
020     :                                                     :
021     :                                                     :
022     :                                                     :
023     :                                                     :
024     :                                                     :
025     :                                                     :
026     +-----------------------------------------------------+
027
028
029
030
031
032
033
                                                                          More...
F3=Exit        F6=Text           F9=Line          F10=Box
F11=Bar code   F21=Element edit  F22=Block edit   F24=More keys
```

Example Actions: Define the following elements in the same way:

1. A line element from (Across : 5, Down : 24) to (Across : 60, Down : 24).
2. A line element from (Across : 5, Down : 22) to (Across : 60, Down : 22).
3. A line element from (Across : 5, Down : 20) to (Across : 60, Down : 20).
4. A line element from (Across : 5, Down : 18) to (Across : 60, Down : 18).
5. A line element from (Across : 5, Down : 16) to (Across : 60, Down : 16).
6. A line element from (Across : 5, Down : 14) to (Across : 60, Down : 14).
7. A line element from (Across : 5, Down : 12) to (Across : 60, Down : 12).
8. A line element from (Across : 5, Down : 10) to (Across : 60, Down : 10).
9. A text element `Ball Point Pen` at (Across : 7, Down : 11).
10. A text element `Pencil` at (Across : 7, Down : 13).
11. A text element `Eraser` at (Across : 7, Down : 15).
12. A text element `Ruler` at (Across : 7, Down : 17).
13. A line element from (Across : 22, Down : 7) to (Across : 22, Down : 24).
14. A text element `Total` at (Across : 7, Down : 25).
15. A line element from (Across : 35, Down : 24) to (Across : 35, Down : 7).
16. A line element from (Across : 46, Down : 7) to (Across : 46, Down : 24).
17. A text element `Item` at (Across : 10, Down : 8).
18. A text element `Quantity` at (Across : 24, Down : 8).
19. A text element `Unit` at (Across : 37, Down : 8).
20. A text element `Price` at (Across : 37, Down : 9).
21. A text element `Amount ( $ )` at (Across : 48, Down : 8).
22. A line element from (Across : 52, Down : 5) to (Across : 59, Down : 5).
23. A text element `Form No. 5A-3233-01` at (Across : 45, Down : 33).

When the above elements are defined, the following display appears.

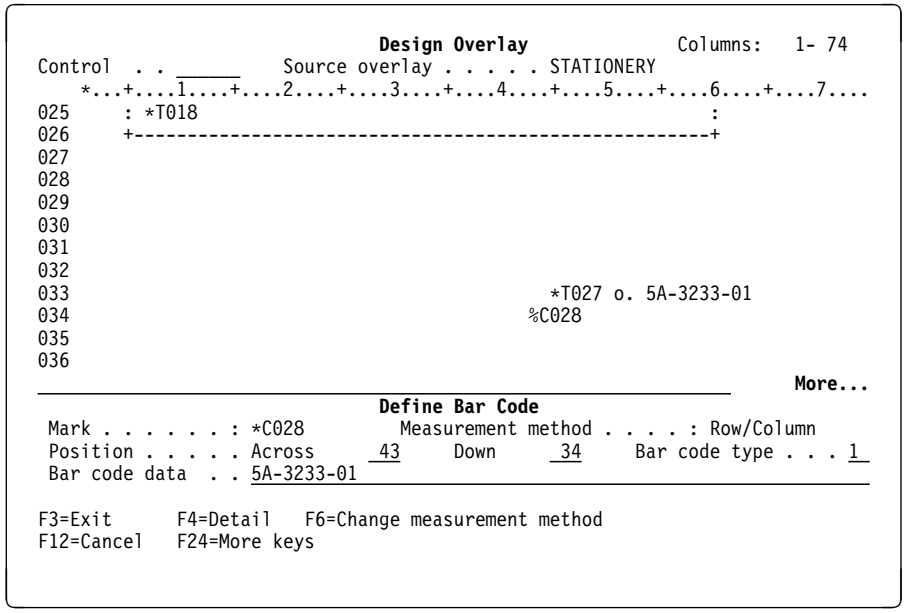


Defining a Bar Code Element

Now, define a bar code element below text element *T027.

Example Action: Move the cursor to position (Across : 43, Down : 34) to define a bar code element, and press the F11 key.

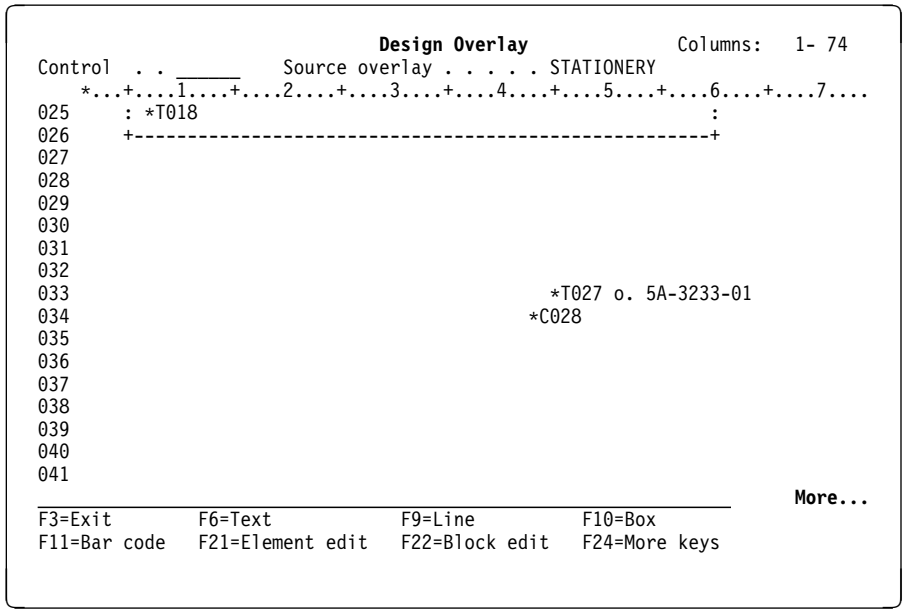
The following display appears.


Design Overlay
Columns: 1- 74
Control . . _____ Source overlay . . . . . STATIONERY
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
025 : *T018 :
026 +----------+
033 *T027 o. 5A-3233-01
034 %C028
More...
Define Bar Code
Mark . . . . . : *C028 Measurement method . . . . : Row/Column
Position . . . . . Across 43 Down 34 Bar code type . . . 1
Bar code data . . 5A-3233-01
F3=Exit F4=Detail F6=Change measurement method
F12=Cancel F24=More keys

Example Action

1. Type `1` in the *Bar code type* prompt.
2. Type `5A-3233-01` in the *Bar code data* prompt.
3. Press the Enter key to define the bar code element in the source overlay.

The following display appears.



Placing a Graphics Element

Note: If your selected printer does not support graphics, skip this section.

Now, place a graphics element at the bottom of the overlay.

Example Actions

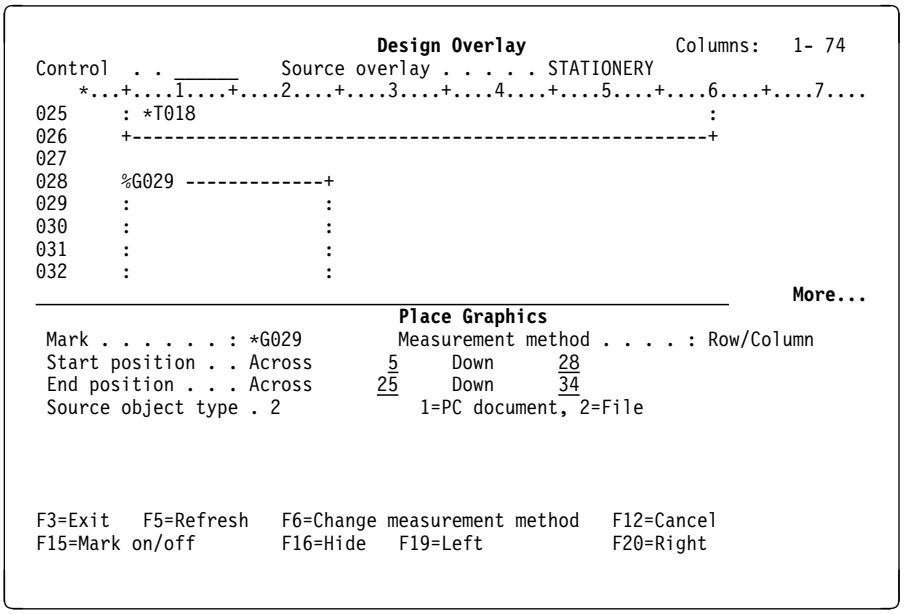
1. Move the cursor to position (Across : 5, Down : 28) to place a graphics element.
2. Press the F13 key, then press the F6 key.

The following display appears.

```
                                Design Overlay              Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
025     : *T018                                                 :
026     +-------------------------------------------------------+
027
028     %G029
029
030
031
032
033                                            *T027 o. 5A-3233-01
034                                           *C028
035
036
037
038
039
040
041
                                                                          More...
F3=Exit           F5=Refresh   F6=Place graphics   F12=Cancel
F15=Mark on/off   F16=Hide     F19=Left            F20=Right
Specify opposite corner of graphics block and press F6.
```

Example Action: Move the cursor to the right bottom corner of the graphics area (Across: 25, Down: 34) and press the PF6 key again.

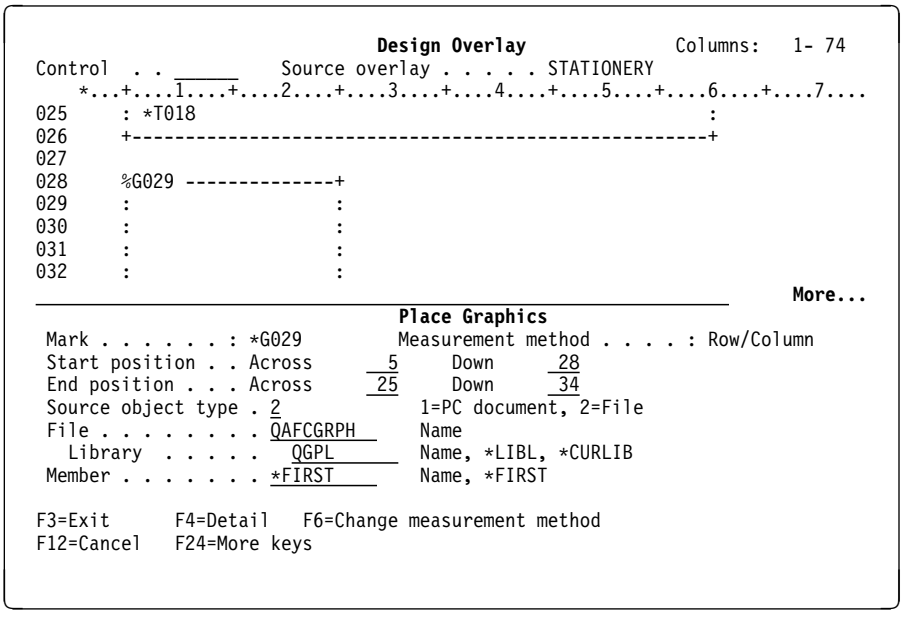
The following display appears.


Design Overlay
Columns: 1- 74
Control . . _____ Source overlay . . . . . STATIONERY
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
025 : *T018 :
026 +----------+
027
028 %G029 ----------+
029 : :
030 : :
031 : :
032 : :
More...
Place Graphics
Mark . . . . . : *G029 Measurement method . . . . : Row/Column
Start position . . Across 5 Down 28
End position . . . Across 25 Down 34
Source object type . 2 1=PC document, 2=File
F3=Exit F5=Refresh F6=Change measurement method F12=Cancel
F15=Mark on/off F16=Hide F19=Left F20=Right

Example Actions

1. Type 2 in the *Source object type* prompt.
2. Press the Enter key.

The following display appears.


Design Overlay
Columns: 1- 74
Control . . _____ Source overlay . . . . . STATIONERY
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
025 : *T018 :
026 +----------+
027
028 %G029 ----------+
029 : :
030 : :
031 : :
032 : :
More...
Place Graphics
Mark . . . . . : *G029 Measurement method . . . . : Row/Column
Start position . . Across 5 Down 28
End position . . . Across 25 Down 34
Source object type . 2 1=PC document, 2=File
File . . . . . QAFCGRPH Name
Library . . . . . QGPL Name, *LIBL, *CURLIB
Member . . . . . *FIRST Name, *FIRST
F3=Exit F4=Detail F6=Change measurement method
F12=Cancel F24=More keys

Example Actions

1. Type QAFCGRPH in the *File* prompt.
2. Type QGPL in the *Library* prompt.
3. Press the Enter key.

*FIRST in the *Member* prompt changes to QAFCGDF.

Example Action: Press the Enter key again to place the graphics element in the source overlay.

The following display appears.

```
                                Design Overlay              Columns:   1- 74
Control  . . _____     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
025     : *T018                                                 :
026     +-------------------------------------------------------+
027
028     *G029 -----------------+
029     :                      :
030     :                      :
031     :                      :
032     :                      :
033     :                      :                *T027 o. 5A-3233-01
034     +----------------------+              *C028
035
036
037
038
039
040
041                                                                    More...
_____________________________________________________________________________
F3=Exit         F6=Text             F9=Line           F10=Box
F11=Bar code    F21=Element edit    F22=Block edit    F24=More keys
```

All elements have been defined.

Viewing the Overlay with the AFP Workbench Viewer

Note: To use the AFP Workbench Viewer, the workstation must be a programmable workstation (PC) and connected to the AS/400 system with Client Access for OS/400 V3R1M3 or later. See the online Client Access Users Guide for information about connecting Client Access to the AS/400. The Client Access connection must use the same user ID that is used for the AS/400 session. The Client Access Workbench Viewer must also be installed on the PC. If your workstation is not a PC or the Client Access Workbench Viewer is not installed on your system, skip this step.

Now view what the overlay will look like by using the AFP Workbench Viewer.

Example Actions

1. Press the TAB key to position the cursor to the Control field.
2. Type `*VIEW`, and press Enter.

A display appears showing a simulated printout of a temporary overlay object created from your source overlay. When you are finished looking at the simulated printout, close the window and proceed.

Note: Included page segments that are not in a library that is in the system library list will not be displayed. Message CWBNP1019, AFP Resource not found, will be displayed instead. To view these page segments, do one of the following:

- Add the library name to the system library list (command CHGSYSLIBL).
- Copy the page segments to library QGPL (command CRTDUPOBJ).

Saving the Source Overlay

Example Action: Press the F3 key (Exit).

The following display appears.

```
                          Create Source Overlay

File . . . . . :   OVLFILE
  Library  . . . . . :     OVLLIB
Source overlay . . . . . :   STATIONERY

Type options, press Enter.
  1=Select

Opt     Action
 _      Define overlay specifications
 _      Work with source overlay fonts
 _      Design overlay









F3=Exit   F5=Refresh   F9=Select all
```

Example Action: Press the F3 key to exit from this display.

The following display appears.

```
                          Exit Overlay Utility

Type choices, press Enter.

  Option  . . . . . .  1      1=Save and exit
                              2=Exit without saving
                              3=Resume Overlay Utility session

  Return to source overlay list . .  Y      Y=Yes, N=No
```

Example Actions

1. Type 1 (Save and exit) in the *Option* prompt.
2. Press the Enter key.

The following display appears.

```
                          Save Source Overlay

Type choices, press Enter.

  Source overlay . . . . . .   STATIONERY     Name, F4 for list
  File . . . . . .             OVLFILE        Name, F4 for list
    Library  . . . . . .         OVLLIB       Name, *CURLIB
  Text 'description' . . . .   Sample Form number 3
_____________
  Delete removed elements  . . . . . .   N             Y=Yes, N=No

F4=Prompt   F5=Refresh   F12=Cancel
```

Example Actions

1. Type `Sample Form number 3` in the *Text 'description'* prompt.
2. Press the Enter key.

The following display appears.

```
                            Create Overlay

File . . . . . :   OVLFILE
  Library  . . . . . :     OVLLIB
Source overlay . . . . . :   STATIONERY
Text . . . . . :   Sample Form number 3


Type choices, press Enter.

  Create overlay . . . . . .   N              Y=Yes, N=No

  Overlay  . . . . . .         STATIONE       Name
    Library  . . . . . .         OVLLIB       Name, *CURLIB
  Text 'description' . . . .   Sample Form number 3
____
  Include grid . . . . . .     N              Y=Yes, N=No
  Replace if exists  . . . .   N              Y=Yes, N=No
  Print overlay  . . . . . .   N              Y=Yes, N=No
  Authority  . . . . . .       *LIBCRTAUT     Name, *LIBCRTAUT, *ALL
                                              *CHANGE, *EXCLUDE, *USE

F3=Exit   F5=Refresh   F12=Cancel
```

Example Action: Press the Enter key.

The following display appears with the completion message.

```
                        Work with Source Overlays

File  . . . . . .  OVLFILE      Name, F4 for list
  Library . . . . .   OVLLIB    Name, *LIBL, *CURLIB
Source overlay  . . . . .  *ALL      Name, generic*, *ALL
Position to . . . . . .  _________    Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   6=Print   7=Rename
  9=Create overlay

     Source
Opt  Overlay     Text                                          Changed
 _   STATIONERY
 _   STATIONERY  Sample Form number 3                          12/12/90




                                                                    Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
Source overlay STATIONERY saved in file OVLFILE successfully.
```

Source overlay STATIONERY has been created in file OVLFILE in library OVLLIB, and it is shown in the list.

Example Action: Press the F3 key to complete the source overlay creation.

The following display appears.

```
                      Work with Source Overlay Files

Library . . . . . .  OVLLIB      Name, *USRLIBL, *LIBL, *CURLIB...
File  . . . . . .  *ALL       Name, generic*, *ALL
Position to . . . . . .  _________    Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   8=Display description
  12=Work with source overlays

Opt  File        Library     Text                            Changed
__   OVLFILE     OVLLIB
__   OVLFILE     OVLLIB      Source overlay file for exerci  12/12/90




                                                                    Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F12=Cancel
Source overlay file OVLFILE created in library OVLLIB.
```

Source overlay file OVLFILE, which contains source overlay STATIONERY, has been created in library OVLLIB, and it is shown in the list.

Example Action: Press the F3 key to exit from this display.

The IBM Advanced Function Printing Utilities for AS/400 menu appears.

Step 4 - Changing a Source Overlay

Placing a Page Segment

When you want to place a logo image, created as a page segment, on the overlay that you have created, perform the following:

Example Actions:

1. Type `STRAFPU` on the command line.
2. Press the Enter key.

The IBM Advanced Function Printing Utilities for AS/400 menu appears.

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> 1
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F16=System main menu
(C) COPYRIGHT IBM CORP. 1991, 1996.
```

Example Actions:

1. Type `1` on the command line.
2. Press the Enter key.

The Work with Source Overlays display appears.

```
                        Work with Source Overlays

File  . . . . . .   OVLFILE      Name, F4 for list
  Library . . . . .    OVLLIB     Name, *LIBL, *CURLIB
Source overlay  . . . . .  *ALL       Name, generic*, *ALL
Position to . . . . . .    _________   Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   6=Print   7=Rename
  9=Create overlay

     Source
Opt  Overlay     Text                                          Changed

 _   _________
 2   STATIONERY  Sample Form number 3                          12/12/90




                                                                    Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

Example Actions:

1. Type 2 in the *Opt* column next to the source overlay name STATIONERY.
2. Press the Enter key.

The Change Source Overlay display appears.

```
                          Change Source Overlay

File . . . . . :   OVLFILE
  Library  . . . . . :     OVLLIB
Source overlay . . . . . :   STATIONERY

Type options, press Enter.
  1=Select

Opt     Action
 _      Define overlay specifications
 _      Work with source overlay fonts
 1      Design overlay









F3=Exit   F5=Refresh   F9=Select all   F12=Cancel
```

Example Action: Press the Enter key.

The Design Overlay display appears.

```
                              Design Overlay              Columns:   1- 74
Control  . . _____     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                *T001  Stationery Co., Ltd.
003
004          *T002 rd Stationery Sales Slip     Date:    /  /
005          *L003 ------------------------           *L026 --
006
007     *B004 -----------*L017 -------:----------*L020 --------+
008     :    *T021       : *T022 ty   : *T023    : *T025  ( $ ):
009     :                :            : *T024    :             :
010     *L012 -----------:------------:----------:--------------
011     : *T013 oint Pen :            :          :             :
012     *L011 -----------:------------:----------:--------------
013     : *T014          :            :          :             :
014     *L010 -----------:------------:----------:--------------
015     : *T015          :            :          :             :
016     *L009 -----------:------------:----------:--------------
017     : *T016          :            :          :             :
                                                                    More...
_____________________________________________________________________________
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

Example Actions:

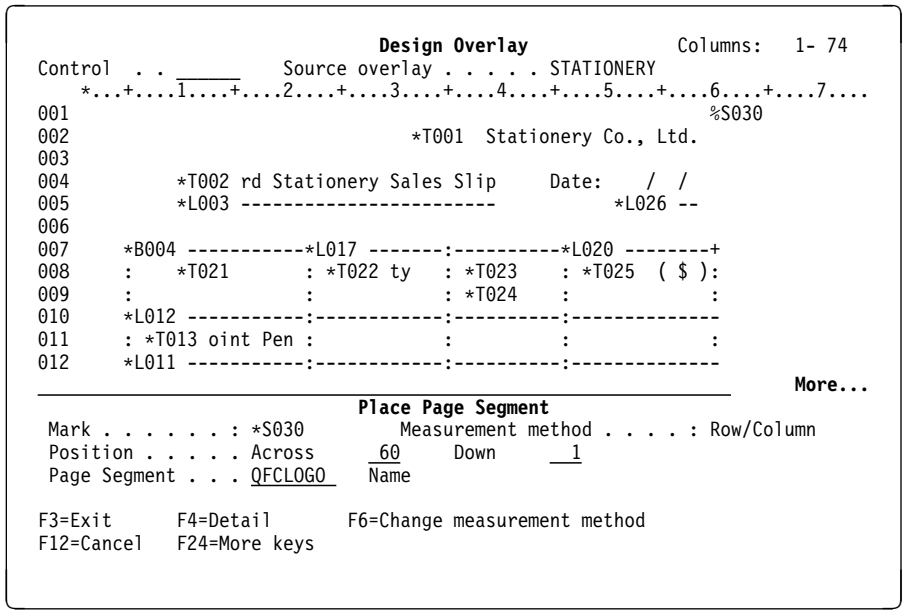
1. Move the cursor to position (Across : 60, Down 1) to place the logo.
2. Press the F13 key.

A % appears at the cursor position, a message prompts you to press the F9 key, and the function key area changes.

```
                              Design Overlay              Columns:   1- 74
Control  . . _____     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001                                                                %
002                                *T001  Stationery Co., Ltd.
003
004          *T002 rd Stationery Sales Slip     Date:    /  /
005          *L003 ------------------------           *L026 --
006
007     *B004 -----------*L017 -------:----------*L020 --------+
008     :    *T021       : *T022 ty   : *T023    : *T025  ( $ ):
009     :                :            : *T024    :             :
010     *L012 -----------:------------:----------:--------------
011     : *T013 oint Pen :            :          :             :
012     *L011 -----------:------------:----------:--------------
013     : *T014          :            :          :             :
014     *L010 -----------:------------:----------:--------------
015     : *T015          :            :          :             :
016     *L009 -----------:------------:----------:--------------
017     : *T016          :            :          :             :
                                                                    More...
_____________________________________________________________________________
F3=Exit   F6=Place graphics   F9=Place page segment   F12=Cancel
F24=More keys
Press F6 or F9 to place graphics or page segment.
```

Example Action: Press the F9 key.

The mark %S030 appears in the image area, indicating a page segment, and the key entry area is displayed, prompting you to enter a page segment name.

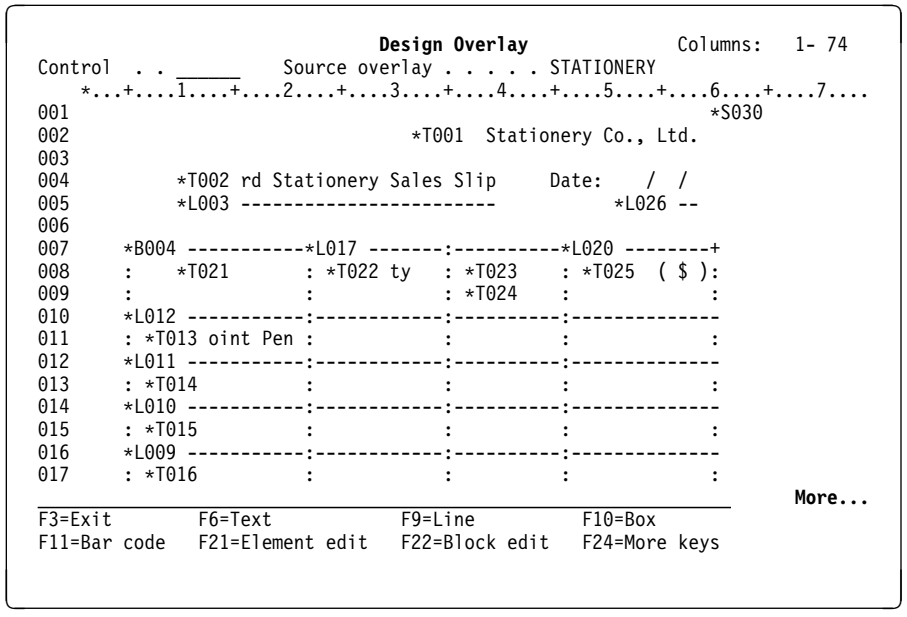

Design Overlay
Columns: 1- 74
Control . . _____ Source overlay . . . . . STATIONERY
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001 %S030
002 *T001 Stationery Co., Ltd.
003
004 *T002 rd Stationery Sales Slip Date: / /
005 *L003 ---------- *L026 --
006
007 *B004 ----------*L017 -------:----------*L020 --------+
008 : *T021 : *T022 ty : *T023 : *T025 ($):
009 : : : *T024 : :
010 *L012 ----------:------------:----------:--------------
011 : *T013 oint Pen : : : :
012 *L011 ----------:------------:----------:--------------
More...
Place Page Segment
Mark . . . . . : *S030 Measurement method . . . . : Row/Column
Position . . . . . Across 60 Down 1
Page Segment . . . QFCLOGO Name
F3=Exit F4=Detail F6=Change measurement method
F12=Cancel F24=More keys

Example Actions:

1. Type QFCLOGO for the *Page segment* prompt.
2. Press the Enter key.

Note: The page segment you specify is not searched for now, but is searched for in the libraries in the library list when the overlay is printed. See “Page Segment” on page 389 for more information.

The mark changes from %S030 to *S030 to indicate the element has been placed.


Design Overlay
Columns: 1- 74
Control . . _____ Source overlay . . . . . STATIONERY
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001 *S030
002 *T001 Stationery Co., Ltd.
003
004 *T002 rd Stationery Sales Slip Date: / /
005 *L003 ---------- *L026 --
006
007 *B004 ----------*L017 -------:----------*L020 --------+
008 : *T021 : *T022 ty : *T023 : *T025 ($):
009 : : : *T024 : :
010 *L012 ----------:------------:----------:--------------
011 : *T013 oint Pen : : : :
012 *L011 ----------:------------:----------:--------------
013 : *T014 : : : :
014 *L010 ----------:------------:----------:--------------
015 : *T015 : : : :
016 *L009 ----------:------------:----------:--------------
017 : *T016 : : : :
More...
F3=Exit F6=Text F9=Line F10=Box
F11=Bar code F21=Element edit F22=Block edit F24=More keys

Example Action: Press the F3 key to complete designing overlay.

The Change Source Overlay display appears.

```
                          Change Source Overlay

File . . . . . :   OVLFILE
  Library  . . . . . :     OVLLIB
Source overlay . . . . . :   STATIONERY

Type options, press Enter.
  1=Select

Opt     Action
 _      Define overlay specifications
 _      Work with source overlay fonts
 _      Design overlay









F3=Exit   F5=Refresh   F9=Select all
```

Example Action: Press the F3 key to exit changing a source overlay.

The Exit Overlay Utility display appears.

```
                          Exit Overlay Utility

Type choices, press Enter.

  Option  . . . . . .   1      1=Save and exit
                               2=Exit without saving
                               3=Resume Overlay Utility session

  Return to source overlay list . .   Y      Y=Yes, N=No









F12=Cancel
```

Example Actions:

1. Type 1 for the *Option* prompt.
2. Press the Enter key.

The Save Source Overlay display appears.

```
                          Save Source Overlay

Type choices, press Enter.

  Source overlay . . . . . .   STATIONERY     Name, F4 for list
  File . . . . . .             OVLFILE       Name, F4 for list
    Library  . . . . . .         OVLLIB      Name, *CURLIB
  Text 'description' . . . .   Sample Form number 3
_____
  Delete removed elements  . . . . . .   N             Y=Yes, N=No

F4=Prompt   F5=Refresh   F12=Cancel
```

Example Action: Press the Enter key.

The Create Overlay display appears.

Creating an Overlay from a Source Overlay

```
                            Create Overlay

File . . . . . :   OVLFILE
  Library  . . . . . :     OVLLIB
Source overlay . . . . . :   STATIONERY
Text . . . . . :   Sample Form number 3


Type choices, press Enter.

  Create overlay . . . . . .   Y             Y=Yes, N=No

  Overlay  . . . . . .   STATIONE       Name
    Library  . . . . . .   OVLLIB       Name, *CURLIB
  Text 'description' . . . . .   Sample Form number 3
___
  Include grid . . . . . .   N             Y=Yes, N=No
  Replace if exists  . . . . .   N             Y=Yes, N=No
  Print overlay  . . . . . .   N             Y=Yes, N=No
  Authority  . . . . . .   *LIBCRTAUT     Name, *LIBCRTAUT, *ALL
                                          *CHANGE, *EXCLUDE, *USE

F3=Exit   F5=Refresh   F12=Cancel
```

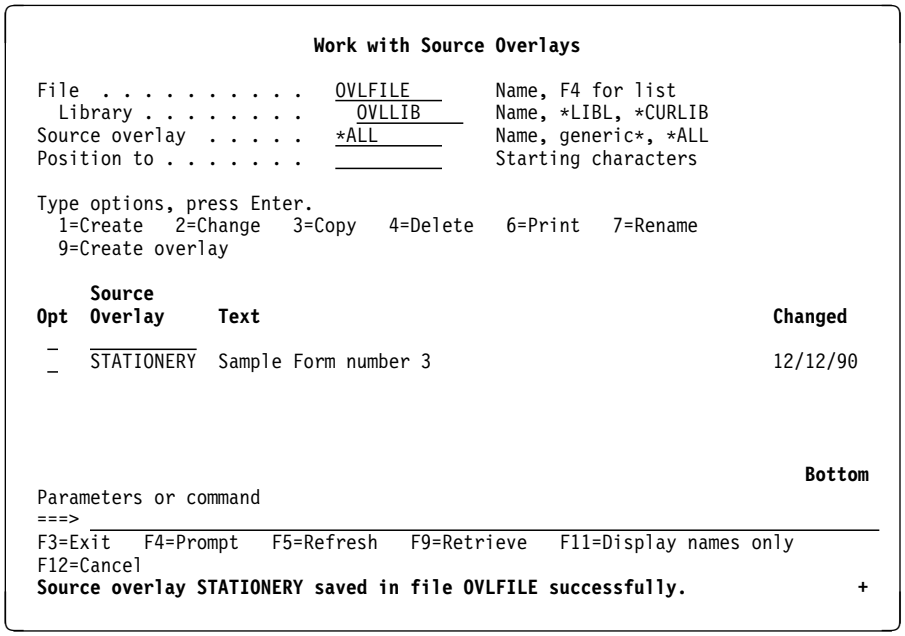
You can create an overlay from this display. Except for the overlay name, the default names and text description are the same as those of the source overlay. The first eight characters of the source overlay name are used as the default overlay name.

Example Actions:

1. Type `Y` for the *Create overlay* prompt.
2. Press the Enter key.

The Work with Source Overlays display appears with completion messages. A + character at the end of the message line indicates that there are more messages remaining. In this case, the completion message for creating an overlay is the remaining message.

To look at the remaining message, move the cursor to the message line and press the Page Down (Roll Up) key. You should look at the remaining messages because error messages may be displayed.


Work with Source Overlays
File . . . . . OVLFILE Name, F4 for list
Library . . . . . OVLLIB Name, *LIBL, *CURLIB
Source overlay . . . . . *ALL Name, generic*, *ALL
Position to . . . . . Starting characters
Type options, press Enter.
1=Create 2=Change 3=Copy 4=Delete 6=Print 7=Rename
9=Create overlay
Opt Source Overlay Text Changed
STATIONERY Sample Form number 3 12/12/90
Bottom
Parameters or command
===>
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F11=Display names only
F12=Cancel
Source overlay STATIONERY saved in file OVLFILE successfully. +

Example Action: Press the F3 key.

The IBM Advanced Function Printing Utilities for AS/400 menu appears.

Step 5 - Using an Overlay

Once an overlay is created, there are a variety of ways to place an overlay in AFP document applications. Overlays can be referenced in the AS/400 printer file, in DDS output specifications (using the OVERLAY keyword), with the Advanced Print Utility, with page and form definitions, with AFP Toolbox for AS/400 APIs, and with numerous third party applications. Refer to the *AS/400 Guide to Advanced Function Presentation and Print Services Facility* (S544-5319) for more information on application options for AFP documents.

Overriding a Printer File

To use an overlay with a printer file, enter an OVRPRTF command to override the printer file with the overlay.

See the *CL Reference* book for detail of the OVRPRTF command.

In the following example, the printer file PRINTF is used as an example. You can use the name of your own printer file instead.

Example Actions:

1. Type `OVRPRTF FILE(PRINTF) FRONTOVL(OVLLIB/STATIONE)` on the command line.
2. Press the Enter key.

Using the Printer File

To create a spooled file that contains the overlay, use the printer file. Any program that uses the printer file will do.

In the following example, a program CRTPRT is used to create a spooled file. You should use the name of your own program that uses the printer file PRINTF.

Example Actions

1. Type `CALL CRTPRT` on the command line.
2. Press the Enter key.

If you do not have a program that uses the printer file, you can try using the overlay with system-supplied programs as follows:

1. Type `OVRPRTF FILE(QSYSPRT) FRONTOVL(OVLLIB/STATIONE)` on the command line.
2. Press the Enter key.
3. Press the Print key.

When you press the Print key, a system program prints a copy of the displayed panel by using printer file QSYSPRT. Thus, overlay STATIONE is printed on the hard copy of the display you are seeing.

You can specify overlays in record formats of a DDS source for the printer file if the printer device type is *AFPDS. See *AS/400 Data Description Specifications Reference Version 2, SC41-9620* for more information.

Printing Overlays with AFP Utilities for AS/400

Overlays can be printed using AFP Utilities for AS/400 menu option 22, then specifying option 6=Print next to the overlay name. To print overlays with Printout Format Definitions, select the "Define Printout Specifications" option on either the Create PFD Definition or Change PFD Definition panel. Then, specify the overlay name and library name for Front side overlay and Back side overlay.

Chapter 4. Starting and Ending the Overlay Utility

This chapter provides additional information for starting and ending the Overlay Utility.

Starting the Overlay Utility

You can start the Overlay Utility by typing either of the following commands on the command line and pressing Enter.

1. **STRAFPU** (Start Advanced Function Printing Utilities/400)
2. **STROVLU** (Start Overlay Utility)

If you start by using **STRAFPU**, the following display appears:

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> ____________________________________________________________________

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F16=System main menu
(C) COPYRIGHT IBM CORP. 1991, 1993.
```

You can start the following two Overlay Utility functions from this menu:

Option	Function
1	Work with source overlays
2	Work with source overlay files

The following describes the options available on the above menu. To select one of the following, type the number of the option on the command line, and press Enter.

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Option 1 (Work with source overlays)

Work with source overlays allows you to do the following:

- Create a source overlay. You can start this option by specifying a source overlay name with the option number.
- Change a source overlay.
- Copy a source overlay.
- Delete a source overlay.
- Print a source overlay.
- Rename a source overlay.
- Create an overlay object from a source overlay.

See Chapter 5, “Work with Source Overlays” on page 59 for more information.

Option 2 (Work with source overlay files)

Work with source overlay files allows you to do the following:

- Create a source overlay file by specifying the name of an AS/400 library and a source overlay file name with the option number.
- Change the description of a source overlay file.
- Copy a source overlay file.
- Delete a source overlay file.
- Rename a source overlay file.
- Display the description of a source overlay file.
- Call the Work with Source Overlays display.

See Chapter 6, “Work with Source Overlay Files” on page 81 for more information.

If you start Overlay Utility by **STROVLU**, the Work with Source Overlays displayed on page 59 appears. You can skip the Work with Source Overlays display by specifying a source overlay name and an option number with the command.

See Chapter 21, “AFP Utilities for AS/400 Commands” on page 355 for more information.

Ending the Overlay Utility

When you have finished working with the Overlay Utility, press the F3 key repeatedly. If you used the STRAFPU command to start the Overlay Utility, the menu panel displayed on page 57 appears.

If you started the Overlay Utility by the STROVLU command, the menu panel display on page 59 appears.

To end the Overlay Utility, press the F3 key one more time. Then the screen returns to the AS/400 display from which you started the Overlay Utility.

Chapter 5. Work with Source Overlays

This chapter provides detailed information about the **Work with source overlays** option.

You can select the following tasks from this display:

- Create a source overlay
- Change a source overlay
- Copy a source overlay
- Delete a source overlay
- Rename a source overlay
- Print a source overlay
- Create an overlay object from a source overlay

Note: Before you create a source overlay, you need to create a source overlay file by selecting 1 (Create) on the Work with Source Overlay Files display.

Type 1 (Work with source overlays) on the IBM Advanced Function Printing Utilities for AS/400 menu on page 135 and press Enter. The Work with Source Overlays display appears:

```
                          Work with Source Overlays

File  . . . . . .  .  .  .  OUFILE____     Name, F4 for list
  Library . . . . . .  .  .   OULIB_____   Name, *LIBL, *CURLIB
Source overlay  . . . . .  .  *ALL_____    Name, generic*, *ALL
Position to . . . . . .  .  .  __________  Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   6=Print   7=Rename
  9=Create overlay

     Source
Opt  Overlay     Text                                              Changed
 _   __________
 _   OVL1        Overlay 1                                         12/12/90
 _   OVL2        Overlay 2                                         12/12/90
 _   OVL3        Overlay 3                                         12/12/90
 _   OVL4        Overlay 4                                         12/12/90
                                                                     More...
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

The following tables describe the Work with Source Overlays display.

Prompts

Field Name	Description
File	Specifies the source overlay file that contains the source overlays you want to list and work with. Press F4 to go to a selection list of source overlay files in the specified library.

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Field Name	Description
Library	Specifies the name of the library that contains the source overlay file containing the source overlays you want to work with. The possible library values in this field are: ***LIBL** Specifies that the file containing the source overlays you want to work with is in one of the libraries in the library list. ***CURLIB** Specifies that the file containing the source overlays you want to work with is the current library. If no library is specified as the current library for the job, library QGPL is used. **library-name** Specifies the name of the library that contains the file containing the source overlays you want to work with.
Source overlay	Specifies that you want to work with all the source overlays in the file or a subset of the source overlays in the file. Choose from the following: **source overlay name** Specifies a source overlay name for a display with only that source overlay name in the list. **generic name** Specifies a partial name of the source overlay name qualified by an asterisk (*) to display a specific subset of source overlays. The generic name is the following format: `ABC*` The source overlays that begin with the characters ABC such as ABC, ABCD, and ABCTEST are shown in the list. ***ALL** Specifies *ALL to display all the source overlays in the specified file. **Note:** The first 8 characters of the source overlay name will be used for the overlay (object) name when you create an overlay (object) using the option 9 (Create overlay). Any remaining characters are discarded.
Position to	This prompt is used for quick repositioning of the list, not for creating a subset of the list. Choose one of the following: ***TOP** To go to the top of the list. ***BOT** To go to the bottom of the list. **name or partial name** Specifies the name or partial name you want to go to in the list. The list is positioned to the first name beginning with the string specified.

Options

Option	Description
1=Create	Creates a source overlay. You can create a new source overlay. Type 1 in the *Opt* column and the name of the source overlay you want to create in the first line in the list. See “1=Create a Source Overlay” on page 63 for more information. **Note:** Before you create a source overlay, you need to create a source overlay file by selecting 1 (Create) on the Work with Source Overlay Files display.

Option	Description
2=Change	Changes a source overlay. You can change a source overlay and save it with either the same name or a new name. That is, you can create a new source overlay based on an existing source overlay using this option. It is also possible to save the source overlay in a different source overlay file or in a different library. Type 2 in the *Opt* column beside the name of the source overlay you want to change. See "2=Change a Source Overlay" on page 73 for more information.
3=Copy	Copies a source overlay to a new source overlay. You can also copy a source overlay to another file, another library, or both. Type 3 in the *Opt* column beside the name of the source overlay you want to copy. See "3=Copy a Source Overlay" on page 74 for more information.
4=Delete	Deletes a source overlay from the source overlay file. You can confirm the choice on the next display before deleting it. Type 4 in the *Opt* column beside the name of the source overlay you want to delete. See "4=Delete a Source Overlay" on page 75 for more information.
6=Print	Prints a source overlay. Type 6 in the *Opt* column beside the name of the source overlay you want to print. See "6=Print a Source Overlay" on page 76 for more information.
7=Rename	Renames a source overlay name. Type 7 in the *Opt* column beside the name of the source overlays you want to change. See "7=Rename a Source Overlay" on page 77 for more information.
9=Create an overlay	Creates an overlay object from a source overlay. Type 9 in the *Opt* column beside the name of the source overlay which you want to create an overlay object from. See "9=Create Overlay" on page 77 for more information.

Columns

Field Name	Description
Opt	Specifies the number of the task in the *Opt* prompt beside the source overlay you want to perform the task with. You can type the same option next to more than one source overlay at a time, and you can also type different options next to different source overlay at the same time.
Source Overlay	Shows a list of all the source overlays in the specified file that meets the subset criteria. You can use the top position in the list to type a source overlay you want to create or select another option.
Text	The text description of the source overlay is shown.
Changed	The date when you last changed the source overlay is shown.

Showing a Source Overlay List

The source overlays can be listed on the lower part of the display by specifying the *Library* prompt and *File* prompt. When you want to change the content of the list, specify the name of a file and library, and press the Enter key. You can page up or down the list on the display by specifying the starting characters in the *Position to* prompt.

Note: When you specify either the *Source overlay* prompt, *File* prompt, or the *Library* prompt, you can **not** specify an option in the *Opt* column.

Selecting a Source Overlay from a List

The list on the display contains the names of all or a specified subset of the source overlays that exist in the source overlay file indicated by the *File* prompt. The text that describes the source overlays and the date when the source overlay was last changed are also shown in the list.

When a list is shown, a one-word indicator always appears below and to the right of the list to tell you where you are in the list. **More...** means that there are more items after the item currently shown. **Bottom** means that you are at the end of the list.

Use the Page or Roll keys to move forward or backward through the list.

If you are creating a source overlay, you can check this list to see what names are already used before you choose a new name. You can create a source overlay by typing 1 and a source overlay name in the first list position, and you can select other source overlays from the list using any of the options except 1 (Create).

Therefore, you can select one or more names by doing one or both of the following:

- In the *Opt* column beside the source overlay name in the list that you want to use, type the number of the option (task) to be used.
- In only the first (top) position of the list, type an option number (for the task), a source overlay name in the *Opt* and *Source Overlay* columns respectively.

Note: You can create a source overlay by specifying the new source overlay name from this display, but you can not create a source overlay file from this display. Use the Work with Source Overlay Files display to create a source overlay file. If you do not have a library for the source overlay file, use the Create Library (**CRTLIB**) command to create a library.

1=Create a Source Overlay

To create a source overlay, do the following on the display on page 59.

1. Type 1 in the *Opt* column in the first line of the list.
2. Type the source overlay name in the *Source Overlay* column in the first line of the list.
3. Press Enter.

The Create Source Overlay display appears:

```
                          Create Source Overlay

File . . . . . . . . . . . . :   OVLFILE
  Library  . . . . . . . . . :     OVLLIB
Source overlay . . . . . . . :   STATIONERY

Type options, press Enter.
  1=Select

Opt     Action
 _      Define overlay specifications
 _      Work with source overlay fonts
 1      Design overlay









F3=Exit   F5=Refresh   F9=Select all   F12=Cancel
```

On this display, you can create a source overlay. By typing a 1 in the *Opt* column of this display, you can go to the Define Overlay Specifications display, the Work with Source Overlay Fonts display, or the Design Overlay display.

Field Name	Description
File	Shows the source overlay file name in which the source overlay you are creating resides.
Library	Shows the library name that contains the source overlay file in which the source overlay you are creating resides.
Source overlay	Shows the source overlay name that you are creating.
1=Select	Allows you to take an action or some actions by typing 1 in the *Opt* column.
Opt	Specifies 1 in the *Opt* column beside the action you want to take.
Action	Shows you the action to be taken by the system when you type 1 in the *Opt* column.

Define Overlay Specifications

Each source overlay has the various specifications to describe itself. These specifications are used by the IBM Advanced Function Printing Utilities for AS/400 throughout designing the overlay. They are also used to determine how the overlay is merged onto the user data, such as the offset position and the degree of rotation.

```
                    Define Overlay Specifications

Type choices, press Enter.

  Printer type . . . . . .   9          1=4224/4234/4230
                                        2=3812/3816/3930
                                        3=3916/4028
                                        4=3820/3825/3827/3829/3835/3900
                                        5=3825/3835/3900(image capable)
                                        6=3831
                                        7=3935
                                        9=Not specified
  Characters per inch  . . . .   10.00   5.00, 10.00, 12.00, 13.30, 15.00
                                        16.70, 18.00, 20.00
  Lines per inch . . . . . .   6.00     3.00, 4.00, 6.00, 7.50, 8.00, 9.00
                                        12.00
  Degree of rotation . . . . .   0       0, 90, 180, 270
  DBCS SO/SI spacing . . . . .   Y       Y=Yes, N=No



                                                                    More...
F3=Exit   F5=Refresh   F12=Cancel
```

```
                    Define Overlay Specifications

Type choices, press Enter.

  Unit of measure  . . . . . .   1        1=Inch, 2=Centimeter
  Data element . . . . . . . .   1        1=Inch, 2=Centimeter
    Measurement method . . . .   1        1=Row/Column, 2=Inch/Centimeter
  Size:
    Measurement method . . . .   1        1=Row/Column, 2=Inch/Centimeter
    Width  . . . . . . . . . .   80       1-999
    Height . . . . . . . . . .   60       1-999
  Offset:
    Measurement method . . . .   1        1=Row/Column, 2=Inch/Centimeter
    Across . . . . . . . . . .   0        0-999
    Down . . . . . . . . . . .   0        0-999
  Grid:
    Measurement method . . . .   1        1=Row/Column, 2=Inch/Centimeter
    Across . . . . . . . . . .   10       1-999
    Down . . . . . . . . . . .   6        1-999



                                                                    Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

Using the Define Overlay Specifications display, you can define the overlay specifications.

The information specified on this display is used :

- When designing the overlay, to check its size and whether or not it is applicable for the printer type
- When creating an overlay object, to generate the appropriate data stream

Field Name	Description
Printer type	Specifies the printer type you are going to use. **1** 4224, 4234, 4230 **2** 3812, 3816, 3930 **3** 3916, 4028 **4** 3820, 3825, 3827, 3829, 3835, 3900 **5** 3825, 3835, 3900 with the Advanced Function Image and Graphics feature **6** 3831 **7** 3935 **9** Not specified The specified value is used to : • Check if each element is supported by the printer. • Create the appropriate data stream to each printer. If 9 or *DEFAULT is selected, another panel is displayed to confirm or change the following attributes for your printer: • Pel density • Graphics • Text color • Color shading • Vertical right to left format, for DBCS • PTOCA Tower 2, Underline, Overstrike, Character enlarge • BCOCA, Bar Code Object Content Architecture See Appendix A, “Printer Characteristics” on page 413 for the differences of printers.
Characters per inch	Specifies the width of a column. For example, at 12 CPI, each column takes one-twelfth inch width. The valid values are 5.00, 10.00, 12.00, 13.30, 15.00, 16.70, 18.00, and 20.00. This value is used to specify horizontal positions when the measurement method is Row/Column. This value is also used to specify horizontal positions of the text in a box element.
Lines per inch	Specifies the distance from one row to the next. For example, 8 LPI means that the distance between the bottom of a row and that of the next one is one-eighth inch. The valid values are 3.00, 4.00, 6.00, 7.50, 8.00, 9.00, and 12.00. This value is used to specify vertical positions when the measurement method is Row/Column. This value is also used to specify vertical positions of the text in a box element.
Degree of rotation	Specifies 0, 90, 180, or 270 for the degrees of clockwise rotation of an overlay.
DBCS SO/SI spacing	Specifies whether or not shift-out (SO) and shift-in (SI) characters are printed as blanks. **Y (Yes)** The shift-out and shift-in characters in the text data are printed as blank characters. **N (No)** The shift-out and shift-in characters in the text data are not printed. They occupy no space in the printout. **Note:** DBCS SO/SI spacing is valid only when the file is a DBCS capable file.

Field Name	Description
Unit of measure	Specifies the unit of measure to use. **1** Inch **2** Centimeter
Data element measurement method	Specifies the initial measurement method to be used when defining or placing elements, such as text, lines, boxes, bar codes, graphics, or page segments. The measurement can still be changed on the define elements and change elements panels. Possible values are: **1** The initial measurement will be Row/Column **2** The initial measurement method will be inch or centimeter depending on the value specified for the unit of measure.
Size	Specifies the size of the overlay by the following: • Measurement method • Width • Height
Measurement method	Specifies the measurement method being used to specify the overlay size. Possible values are: **1** Row/Column is used as the measurement method. **2** Either inch or centimeter is used as the measurement method depending on the value specified for the *Unit of measure*. **Note:** To change both the measurement method and its following fields, you need to change the value for the measurement method and press Enter, **before** you change the following fields.
Width	Specifies the horizontal size of the overlay. Possible values are: • 1 to 999 (columns) • 0.10 to 22.25 (inches) • 0.10 to 57.79 (centimeters)
Height	Specifies the vertical size of the overlay. Possible values are: • 1 to 999 (rows) • 0.10 to 22.25 (inches) • 0.10 to 57.79 (centimeters)
Offset	Specifies the offset of the overlay in the page by the following: • Measurement method • Across • Down
Measurement method	Specifies the measurement method being used for the offset. Possible values are: **1** Row/Column is used as the measurement method. **2** Either inch or centimeter is used as the measurement method depending on the value specified for the *Unit of measure*. **Note:** To change both the measurement method and its following fields, you need to change the value for the measurement method and press Enter, **before** you change the following fields.

Field Name	Description
Across	Specifies the value of the horizontal distance from the left edge of the logical page to the origin of the source overlay to be created. Possible values are: • 0 to 999 (columns) • 0 to 22.25 (inches) • 0 to 57.79 (centimeters)
Down	Specifies the vertical distance from the top edge of the logical page to the origin of the overlay to be created. Possible values are: • 0 to 999 (rows) • 0 to 22.25 (inches) • 0 to 57.79 (centimeters)
Grid	Specifies the distance between the grid lines by the following: • Measurement method • Across • Down
Measurement method	Specifies the measurement method being used for the grid. Possible values are: **1** Row/Column is used as the measurement method. **2** Either inch or centimeter is used as the measurement method depending on the value specified for the *Unit of measure*. **Note:** To change both the measurement method and its following fields, you need to change the value for the measurement method and press Enter, **before** you change the following fields. You can specify to print horizontal and vertical lines with the printout to help your designing work. The following fields specify the horizontal and vertical distances between grid lines.
Across	Specifies the horizontal distance between vertical lines of grid. The valid values are: • 1 to 999 (columns) • 0.10 to 22.25 (inches) • 0.10 to 57.79 (centimeters)
Down	Specifies the vertical distance between horizontal lines of grid. The valid values are: • 1 to 999 (rows) • 0.10 to 22.25 (inches) • 0.10 to 57.79 (centimeters)

The overlay utility displays the required information to define overlay specifications. You can type appropriate values and press the Enter key to set the overlay specifications.

Change Overlay Specifications

You can change overlay specifications of the existing overlay, or you can create a new overlay based on the existing source source overlay by changing it. Conflicts can occur between previously defined elements and changed overlay specifications in the same source overlay. This function is usually preferred in the following cases.

Note: The change operation is similar to the create operation. The only difference is that the previously entered parameters are already placed in each field when the display appears. See “Define Overlay Specifications” on page 64 for the description of each parameter.

- Making the overlay size smaller

  When you try to reduce the overlay size from the previously defined values, some overlay elements may be positioned outside the newly defined overlay. The overlay size is always measured from the origin, the top-left corner of the overlay. For example, the overlay elements placed near the right edge or bottom of the previous overlay may be positioned outside the newly defined overlay. In this case, elements are deleted if their positions extend beyond the overlay boundaries.

  The overlay utility displays the confirmation display when such a situation occurs to let you enter the delete element operation or cancel the change overlay specifications operation. See “Confirm Delete of Elements” on page 69 for more information.

- Changing the unit of measure

  The overlay utility allows you to change the unit of measure in the overlay specifications between inches and centimeters. The defined numbers in each element do not change. Therefore, some elements are positioned outside the overlay when the number specified for the size exceeds the possible maximum value for the unit. Also some values may exceed the lower limit of parameters such as module width.

- Changing the printer type

  The overlay utility allows you to change the printer type in the overlay specifications. The overlay utility checks the compatibility between previously defined overlay elements with the newly specified printer type. If the overlay utility finds any mismatched elements, the overlay utility displays the confirmation display and lists these elements on the display. You can then delete the elements or cancel the change overlay specifications.

When the parameter values of the elements become incorrect by changing the parameter values of the overlay specifications, a warning message is displayed. You can adjust parameter values of those elements by pressing the Enter key, or you can change the parameter values of the overlay specifications to correct the errors.

The following table describes the cause of warning messages and the results.

Figure 16 (Page 1 of 2). The Cause of a Message and Its Results

Cause	Result
The *Unit of measure* changed from `1=Inch` to `2=Centimeter` and the value for *Module width* gets too small. For example, 0.001 inches becomes 0.001 centimeters.	The correct minimum value `0.003` centimeter is used.
The *Unit of measure* changed from `2=Centimeter` to `1=Inch` and the value for *Module width* or *Line width* gets too large. For example, 2 centimeters becomes 2 inches.	The correct maximum value `1` inch is used.

Figure 16 (Page 2 of 2). The Cause of a Message and Its Results

Cause	Result
The *Printer type* changed from 1=4224/4234/4230 or 9=Not specified to another type and the value for *Color* becomes incorrect. For example, 1=Blue is incorrect.	The value *DEFAULT is used.
The *Printer type* changed from another type to 1=4224/4234/4230, or 2=3812/3816/3930, or 3=3916/4028, or 7=3935 and the value for *Format* becomes incorrect. For example, 2=Vertical is incorrect.	The value 1=Horizontal is used.
The *Printer type* changed from 1=4224/4234/4230, or 2=3812/3816, or 3=3916/4028, or 7=3935, or 9=Not specified to another type and the value for *Overstrike* becomes incorrect. For example, X is incorrect.	Blank is used.
The *Printer type* changed from 1=4224/4234/4230, or 2=3812/3816/3930, or 3=3916/4028, or 7=3935, or 9=Not specified to another type and the value for *Underline* becomes incorrect. For example, Y is not correct.	The value N is used.
The *Printer type* changed from 1=4224/4234/4230, or 2=3812/3816/3930, or 3=3916/4028, or 7=3935, or 9=Not specified to another type and the value for *Character size* becomes incorrect. For example, 1 is not correct.	The value *DEFAULT is used.

Confirm Delete of Elements

```
                        Confirm Delete of Elements

Press Enter to confirm your choices for delete.
Press F12 to return to change your choices.

                Position   Position
Mark    Name     Across      Down     Reason
*T001            135          4      Out of overlay
*T012             18.03       0.42   Out of overlay
*T013             18.03       0.83   Out of overlay
*T014             18.03       1.24   Out of overlay
*L020             17.00       1.50   Out of overlay
*B021              2.10       1.50   Out of overlay
*S026   LOGO     136          1      Out of overlay
*B029              2.12      12.23   Out of overlay
*G031   GDF1      5.60       1.85   Not supported by printer type




                                                                    Bottom
F12=Cancel
```

The Confirm Delete of Elements display shows the list of the elements to be deleted due to a change in the overlay specifications. The *Reason* column shows why the element is to be deleted.

You can delete these elements by pressing Enter. If you do not want to delete these elements, press F12 to cancel, then the Define Overlay Specifications display appears.

Field Name	Description
Mark	Shows the element mark of the element to be deleted. The mark consists of an asterisk (*), a character that shows the element type, a three digit number (001 to 999), and a blank. The character for each element type is: **T** Text **L** Line **B** Box **C** Bar code **S** Page segment **G** Graphics
Name	Shows the element name that is specified on the Define Element Detail display.
Position Across	Shows the horizontal starting position of the overlay element.
Position Down	Shows the vertical starting position of the overlay element.
Reason	Shows the reason the element is to be deleted. The values are: **Out of overlay** Either horizontal and/or vertical position of the element is not within the size of the overlay. • If the element is text, bar code, or page segment, its start position is outside. • If the element is line, box, or graphics, its bottom-right corner is outside. **Not supported by printer type** The element uses a function that is not supported by the specified printer type. If the element is graphics, the printer does not support the function to print graphics.

Work with Source Overlay Fonts

The Work with Source Overlay Fonts display appears. For the work with fonts operation, see Chapter 14, “Work with Fonts” on page 289.

Design Overlay

You can design a source overlay on the Design Overlay display. In a source overlay, you can define the following elements:

- Text
- Line
- Box
- Bar code
- Page segment
- Graphics

For more information about the design operation of a source overlay, see Chapter 13, “Design Operation” on page 219.

Saving a Source Overlay

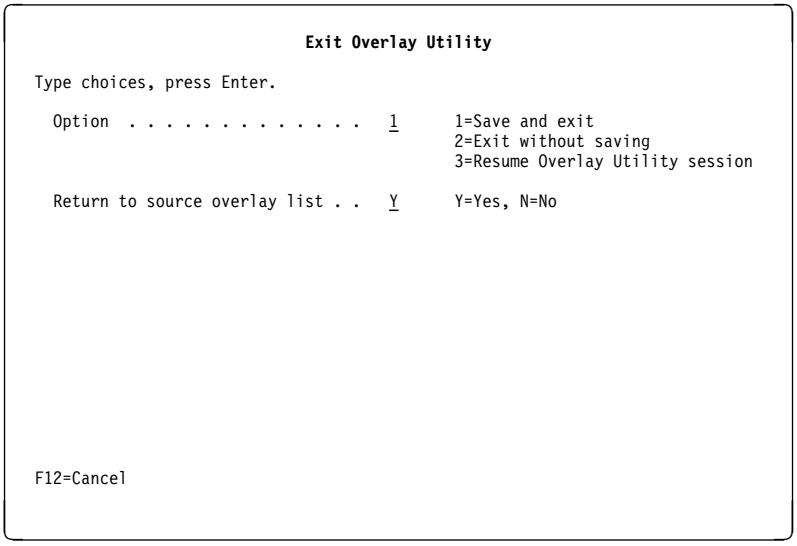
When you create a source overlay, do the following to save it.

Step 1. Press the F3 key on the Design Overlay display.

Step 2. The Create Source Overlay display appears.

Press the F3 key.

Step 3. The following display appears.

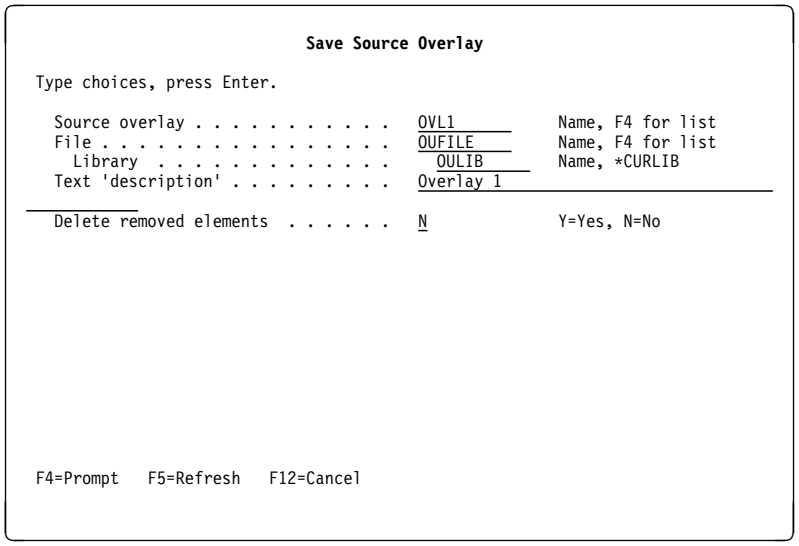


Using the Exit Overlay Utility display, you can specify to:

- Save the source overlay
- Exit creating or changing the source overlay without saving it.
- Resume the overlay utility session.

Field Name	Description
Option	Specifies how you want to handle the source overlay that you are working with: **1** *Save and exit* allows you to save the source overlay that you have created. The Save Source Overlay display appears to save the source overlay. **2** *Exit without saving* allows you to exit from the task without saving the source overlay. Everything you have entered while you were designing the overlay is discarded. **3** *Resume overlay utility session* allows you to return to the Create Source Overlay display.
Return to source overlay list	Specifies one of the following selections: **Y (Yes)** Returns to the Work with Source Overlays display. **N (No)** Bypasses the Work with Source Overlays display and returns to the display from which you started the overlay utility.

Step 4. Type 1 in the *Option* prompt, and press the Enter key. The Save Source Overlay display appears.


Save Source Overlay
Type choices, press Enter.
Source overlay . . . . . OVL1 Name, F4 for list
File . . . . . OUFILE Name, F4 for list
Library . . . . . OULIB Name, *CURLIB
Text 'description' . . . . . Overlay 1
Delete removed elements . . . . . N Y=Yes, N=No
F4=Prompt F5=Refresh F12=Cancel

On the Save Source Overlay display, you can specify the following:

Field Name	Description
Source overlay	Shows the previously selected source overlay name as the default.
File	Shows the default file name that was specified for the source overlay being created or specifies your own source overlay file name in which the source overlay is to be saved.
Library	Shows the default library name that was specified for the source overlay being created or specifies the library name in which the source overlay is to be saved.
Text 'description'	Specifies the description of the source overlay.
Delete removed elements	Specify Y to delete the elements you removed. The numbers in each element mark of the other elements are re-numbered. Then the overlay utility saves the overlay. Specify N to not delete the elements you removed. The default value is N. The removed elements are those which you removed by using the remove element function. Removed elements are not displayed in the screen view, and are displayed with an asterisk (*) after the element type in the list view. You can recover removed elements with the restore (S) command in the list view. **Note:** All or any one of the fields in the Save Source Overlay can be changed.

Step 5. When you complete the operation in this display and press the Enter key, the Create Overlay display appears.

Step 6. Press the Enter key. The Work with Source Overlays display appears.

2=Change a Source Overlay

To change a source overlay, see the Work with Source Overlays display on page 59.

1. Type a 2 in the *Opt* column beside the source overlay you want to change.
2. Press Enter.

The Change Source Overlay display appears:

```
                          Change Source Overlay

File . . . . . . . . . . . . :   OUFILE
  Library  . . . . . . . . . :     OULIB
Source overlay . . . . . . . :   OVL6

Type options, press Enter.
  1=Select

Opt     Action
 _      Define overlay specifications
 _      Work with source overlay fonts
 1      Design overlay









F3=Exit   F5=Refresh   F9=Select all   F12=Cancel
```

Using the Change Source Overlay display, you can change the existing source overlay by selecting the action on the above display in the same way you do to create a source overlay. See “1=Create a Source Overlay” on page 63 for more information.

3=Copy a Source Overlay

To copy a source overlay, do the following on the Work with Source Overlays display on page 59.

1. Type a 3 in the *Opt* column beside the source overlay you want to copy.
2. Press Enter.

The Copy Source Overlay display appears:

```
                          Copy Source Overlay

From file  . . . . . . . . . :   OUFILE
  Library  . . . . . . . . . :     OULIB
Source overlay . . . . . . . :   OVL1
Text . . . . . . . . . . . . :   Overlay 1


Type choices, press Enter.

  To file  . . . . . . . . . .   OUFILE      Name, F4 for list
    Library  . . . . . . . . .     OULIB      Name, *CURLIB, *LIBL
  Source overlay . . . . . . .   OVL2        Name
  Text 'description' . . . . .   Overlay 2
____




F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

Using the Copy Source Overlay display, you can copy the source overlay to a source overlay in the same or different file or library.

When invoked, the Copy Source Overlay function displays a screen showing the From File name, the From Library name and the name of the From Source Overlay. It also displays the same From File name, From Library name and Source Overlay name for the receiving File name, Library name and Source Overlay name.

In order for the copy request to work correctly, one of the values displayed in the Prompt screen must be unique.

Field Name	Description
From file	Shows the name of the source overlay file that contains the source overlay you are going to copy.
Library	Shows the name of the library containing the file with the source overlay you are going to copy.
Source overlay	Shows the name of the source overlay you are going to copy.
Text	Shows the text description of the source overlay you are going to copy.

Field Name	Description
To file	Press F4 to display a selection list of source overlay file names that are eligible to receive the copied overlay. This display also shows, for the To File, the same name as the From file name, the same name as the From Library name and the same name as the Source Overlay name. Leave the default To file and library names if the Source Overlay is being copied to the same file as the sending file.
From Library	Specifies the name of the library that contains the Source Overlay that is being copied.
To Library	Specifies the name of the Library that will receive the copied Source Overlay. The possible values in this field are: ***LIBL** to specify the Library that will contain the copied source overlay is in one of the libraries in the library list. ***CURLIB** to specify that the file that will contain the copied source overlay is in the current library. If no library is specified as the current library for the job, library QGPL is used. **library-name** to specify the specific library name you want to copy the source overlay to.
Source overlay	Specifies the new source overlay you are going to copy to. This field has the same source overlay name as the from source overlay name. Leave the default if you want to copy the source overlay to a different file or to different library with the same source overlay name.
Text 'description'	Specify a short description of the source overlay in this field or leave the default if you want to copy the source overlay with the same description as the description of the from source overlay. This description is saved with the source overlay and displayed when the source overlays are listed to help you identify the source overlays.

Press the Enter key after you type the choices.

4=Delete a Source Overlay

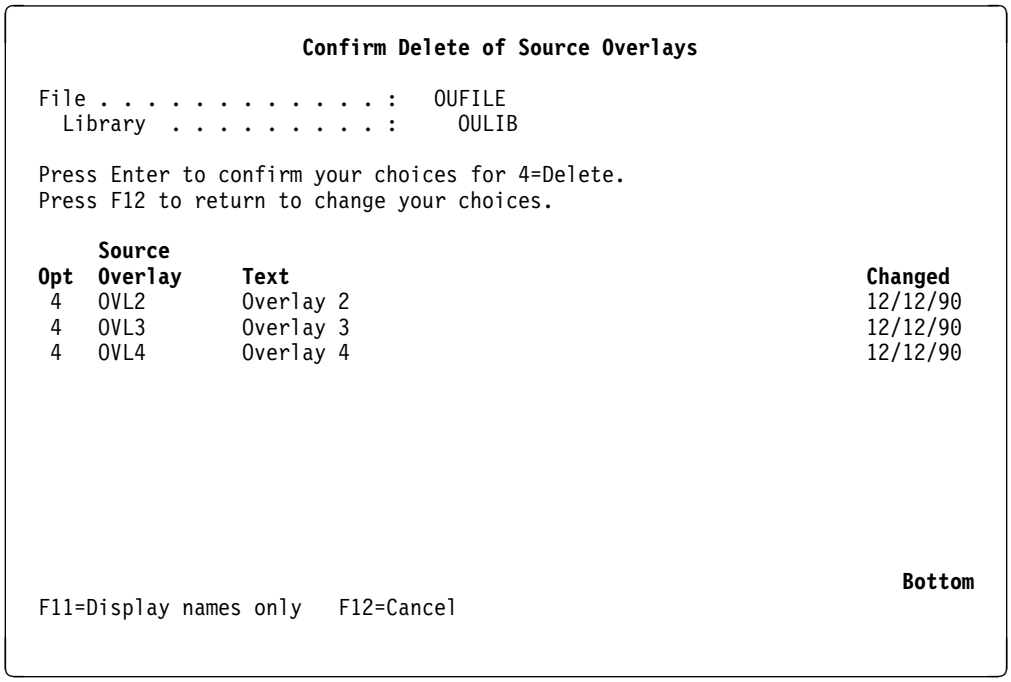
To delete a source overlay, do the following on the Work with Source Overlay display on page 59.

1. Type a 4 in the *Opt* column beside the source overlay you want to delete.

   You can select more than one source overlay on the display.

2. Press Enter.

The Confirm Delete of Source Overlays display appears:


Confirm Delete of Source Overlays
File . . . . . : OUFILE
Library . . . . . : OULIB
Press Enter to confirm your choices for 4=Delete.
Press F12 to return to change your choices.
Opt Source Overlay Text Changed
4 OVL2 Overlay 2 12/12/90
4 OVL3 Overlay 3 12/12/90
4 OVL4 Overlay 4 12/12/90
Bottom
F11=Display names only F12=Cancel

On this display, all source overlays that you specified to delete are listed for your confirmation. Press Enter to confirm your choices for deletion, after which these source overlays are deleted. If you do not want to delete these source overlays, press F12 to return to the previous display to change your choices.

Field Name	Description
File	The name of the source overlay file in which the source overlay resides is shown.
Library	Shows the name of the library containing the source overlay file with the source overlay you chose to delete.
Opt	The *Opt* column showing the delete option which causes the confirmation display to be shown. For this display, the option number is always 4.
Source overlay	Shows a list of all source overlays you chose to delete.
Text	Shows the text description of the source overlay.
Changed	The latest date you changed the source overlay is shown.

Press the Enter key to delete source overlays.

6=Print a Source Overlay

To print a source overlay, do the following on the Work with Source Overlay display on page 59.

1. Type a 6 in the *Opt* column beside the source overlay.
2. Press Enter.

The specified source overlay is printed.

7=Rename a Source Overlay

To rename a source overlay, do the following on the Work with Source Overlay display on page 59.

1. Type a 7 in the *Opt* column beside the source overlay.
2. Press Enter.

The Rename Member display appears. Type the new name of the source overlay in the *New member* prompt.

9=Create Overlay

To create an overlay object from a source overlay, perform the following steps on the Work with Source Overlay display on page 59.

1. Type a 9 in the *Opt* column beside the source overlay.
2. Press Enter.

The Create Overlay display appears:

```
                              Create Overlay

File . . . . . :   OUFILE
  Library  . . . . . :     OULIB
Source overlay . . . . . :   OVL1
Text . . . . . :   Overlay 1


Type choices, press Enter.

  Create overlay . . . . . .   Y              Y=Yes, N=No

  Overlay  . . . . . .   OVL1___        Name
    Library  . . . . . .     OULIB_____   Name, *CURLIB
  Text 'description' . . . . .   Overlay 1
____
  Include grid . . . . . .   N              Y=Yes, N=No
  Replace if exists  . . . . .   N          Y=Yes, N=No
  Print overlay  . . . . . .   N            Y=Yes, N=No
  Authority  . . . . . .   *LIBCRTAUT       Name, *LIBCRTAUT, *ALL
                                            *CHANGE, *EXCLUDE, *USE

F3=Exit   F5=Refresh   F12=Cancel
```

Using this display, you can create an overlay object from the source overlay that you created using the overlay utility.

Field Name	Description
File	Shows the source overlay file name in which the source overlay resides.
Library	Shows the library name that contains the source overlay file in which the source overlay you are working with resides.
Source overlay	Shows the source overlay name that you are working with.
Text	Shows the description text of the source overlay.
Create overlay	Specify a Y to create the overlay object, type N to not create the overlay object. By specifying a Y for the create option and pressing Enter, the overlay utility creates an overlay from the source overlay.
Overlay	Specifies the overlay object name. The default value is provided as the first eight characters of the name of the source overlay.
Library	Specifies the library name to store the overlay object.
Text 'description'	Specifies the description of the overlay object. The default value is the same as the text of the source overlay.
Include grid	Specify a Y to print out the grid with the overlay. The overlay utility creates the grid according to the values specified in the overlay specifications. The default value is N.
Replace if exists	Specify a Y to save the overlay object in the library unconditionally. Specify an N to avoid replacing the object if one of the same name exists. The default value is N.
Print overlay	Specify a Y to print the overlay. The overlay utility creates the overlay print data stream with spooled file type of *AFPDS for the printer. The default value is N. **Note:** The Print Overlay display appears.

Field Name	Description
Authority	Specifies the authority given to users who do not have specific authority to the overlay, who are not on the authorization list, and whose user group has no specific authority to the overlay. **Note:** This value is ignored and the current authority remains if you are replacing an existing overlay. You can specify the following values for this parameter: ***LIBCRTAUT** The system determines the authority for the overlay by using the value specified on the *Create authority* prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the overlay to be created. If the value specified on the *Create authority* prompt (CRTAUT parameter) is changed, the new value will not affect any existing overlays. ***CHANGE** Change authority allows the user to perform all operations on the overlay except those limited to the owner or controlled by object existence authority and object management authority. The user can change the overlay and perform basic functions on the overlay. Change authority provides object operational authority and all data authority. ***ALL** All authority allows the user to perform all operations on the overlay except those limited to the owner or controlled by authorization list management authority. The user controls the existence of the overlay, specifies the security for the overlay, changes the overlay, and performs basic functions on the overlay. The user cannot transfer ownership of the overlay. ***USE** Use authority allows the user to perform basic operations on the overlay, such as run a program or read a file. The user is prevented from changing the overlay. Use authority provides object operational authority, read authority, and execute authority. ***EXCLUDE** Exclude authority prevents the user from accessing the overlay. **Authorization-list-name** Specifies the name of the authorization list that is used to secure the overlay object to be created.

An overlay is created from a source overlay. The source overlay consists of:

- Overlay specifications
- Font information
- Element definitions

Press the Enter key to create the overlay. When the overlay object is created successfully, the Work with Source Overlays display or the screen before the Work with Source Overlays display appears with a message at the bottom of the screen. It depends on the value of the *Return to source overlay list* prompt in the Exit Overlay display.

If any error is found in the input parameters or in the resource selection on the screen, the field which contains the error is reversed and an error message appears at the bottom of the screen.

Chapter 6. Work with Source Overlay Files

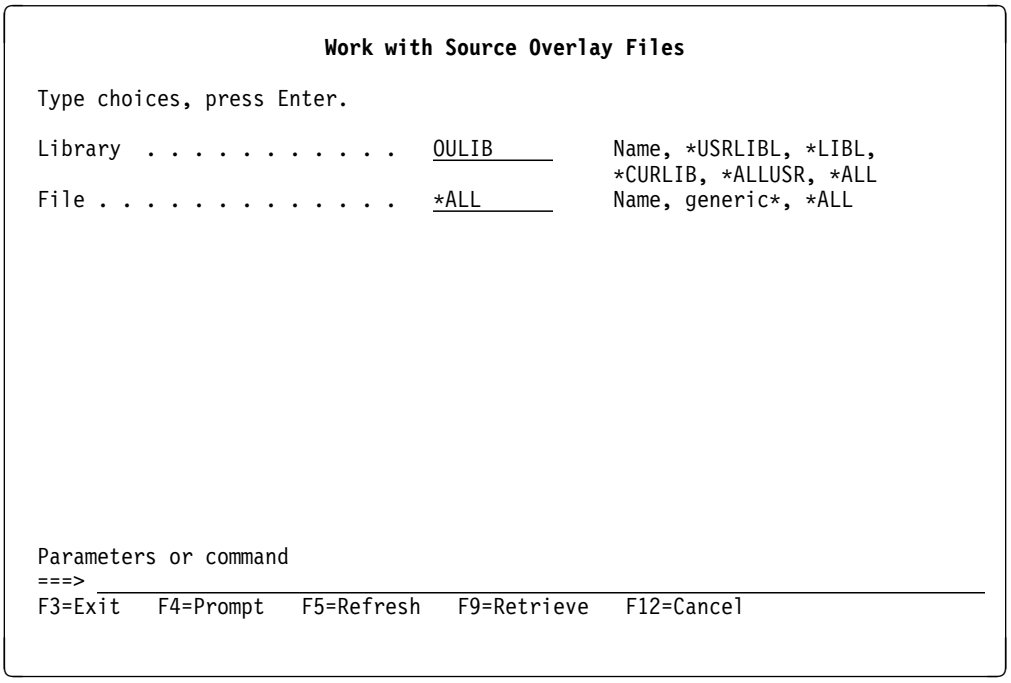
This chapter provides the detail information for the Work with Source Overlay Files display.

From the Work with Source Overlay Files display, you can choose the following functions.

- Creating a source overlay file to contain source overlays
- Changing the description text of a source overlay file
- Copying a source overlay file that contains source overlays to another source overlay file
- Deleting a source overlay file
- Renaming a source overlay file
- Displaying the description text of a source overlay file
- Going to the Work with Source Overlays display

Note: To create a source overlay file, you need a library in which the source overlay file will reside. If you do not have any libraries, you can create a library by entering CRTLIB (Create library) command on a command line on any display.

To show the Work with Source Overlay Files display, type 2 in the command line on the Advanced Function Printing Utilities menu and press Enter. The following display appears:


Work with Source Overlay Files
Type choices, press Enter.
Library . . . . . OULIB
Name, *USRLIBL, *LIBL,
*CURLIB, *ALLUSR, *ALL
File . . . . . *ALL
Name, generic*, *ALL
Parameters or command
===>
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F12=Cancel

Use this display to select the source overlay files you want to list and work with. You can use the *Library* and *File* prompts to specify subset criteria. When you press Enter, the Work with Source Overlay Files display appears with the list of source overlay files.

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The following table explains each field on this display.

Field Name	Description
Library	Specifies the library that contains source overlay files you want to list and work with. Choose from the following: **library name** Specifies the name of the library that contains the source overlay files you want to work with. ***USRLIBL** Only libraries in the user portion of the job's library list are searched. ***LIBL** All the libraries in the user and system portions of the job's library list are searched. **Note:** This value may cause a long response time until the Work with Source Overlay Files display appears. ***CURLIB** The current library for the job is searched. If no current entry exists in the library list, library QGPL is used. ***ALLUSR** All "user-defined" libraries are searched. "User-defined" libraries include library QGPL, but exclude all other libraries with names that begin with the letter "Q." **Note:** This value may cause a long response time until the Work with Source Overlay Files display appears. ***ALL** All libraries in the system, including QSYS, are searched. **Note:** This value may cause a long response time until the Work with Source Overlay Files display appears.
File	Specifies that you want to work with all source overlay files in the library or a subset of source overlay files in the library. Choose from the following: **source overlay file name** Specifies a source overlay file name for a display with only that source overlay name in the list. **generic name** Specifies a partial name of the source overlay file name qualified by an asterisk (*) to display a specific subset of source overlay files. The generic name is the following format: **ABC*** Display a list of all source overlay files that begin with the characters ABC. For example, ABC, ABCD, or ABCTEST. ***ALL** Specifies *ALL to display all the source overlays in the specified library.

The following display appears by pressing the Enter key on the previous display.

```
                        Work with Source Overlay Files

Library . . . . . .   OULIB      Name, *USRLIBL, *LIBL, *CURLIB...
File  . . . . . .     *ALL       Name, generic*, *ALL
Position to . . . . .  _________  Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   7=Rename   8=Display description
  12=Work with source overlays

Opt  File        Library     Text                              Changed
__   __________  __________
__   OUFILE      OULIB       File for source overlays          12/12/90
__   OUFILE2     OULIB       Source overlay file 2             12/12/90
__   OUFILE3     OULIB       Source overlay file 3             12/12/90
__   OUFILE4     OULIB       Source overlay file 4             12/12/90
__   OUFILE5     OULIB       Source overlay file 5             12/12/90
__   OUFILE6     OULIB       Source overlay file 6             12/12/90
                                                                        More...
Parameters or command
===> ____________________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

The following tables explain each field of the Work with Source Overlay Files display.

Prompts

Prompt	Description
Library	Specifies the library that contains source overlay files you want to list and work with. Choose from the following: **library name** Specifies the name of the library that contains the source overlay files you want to work with. ***USRLIBL** Only libraries in the user portion of the job's library list are searched. ***LIBL** All the libraries in the user and system portions of the job's library list are searched. **Note:** This value may cause a long response time until the Work with Source Overlay Files display appears. ***CURLIB** Current library for the job is searched. If no current entry exists in the library list, library QGPL is used. ***ALLUSR** All "user-defined" libraries are searched. "User-defined" libraries include library QGPL, but exclude all other libraries with names that begin with the letter "Q". **Note:** This value may cause a long response time until the Work with Source Overlay Files display appears. ***ALL** All libraries in the system, including QSYS, are searched. **Note:** This value may cause a long response time until the Work with Source Overlay Files display appears.

Prompt	Description
File	Specifies that you want to work with all source overlay files in the library or a subset of source overlay files in the library. Choose from the following: **source overlay file name** Specify a source overlay file name for a display with only that source overlay name in the list. **generic name** Specify a partial name of the source overlay file name qualified by an asterisk (*) to display a specific subset of source overlay files. The generic name is the following format: **ABC*** Display a list of all source overlay files that begin with the characters ABC. For example, ABC, ABCD, or ABCTEST. ***ALL** To display all the source overlays in the specified library.
Position to	This prompt is used for quick repositioning of the list, not for creating a subset of the list. Choose one of the following: ***TOP** To go to the top of the list. ***BOT** To go to the bottom of the list. **name or partial name** Specifies the name or partial name you want to go to in the list. The list is positioned to the first name beginning with the string specified.

Options

Option	Description
1=Create	Creates a source overlay file. Type 1 in the *Opt* column, and the name of source overlay file and library you want to create in the first line in the list. The Work with Source Overlays display appears after the source overlay file is created so that you can create source overlays in the source overlay file. See “1=Create Source Overlay File” on page 87 for more information. **Note:** To create a source overlay file, you need a library in which the source overlay file will reside. If you do not have any libraries, you can create a library by entering the Create library (CRTLIB) command on a command line on any display.
2=Change	Changes the description text of a source overlay file. Type 2 in the *Opt* column beside the name of the source overlay file for which you want to change its description. See “2=Change Source Overlay File Description” on page 89 for more information.
3=Copy	Copies a source overlay file to a new source overlay file. Type 3 in the *Opt* column beside the name of the source overlay file you want to copy. When the source overlay file is copied, all source overlays in the file are also copied. See “3=Copy Source Overlay File” on page 90 for more information.
4=Delete	Deletes a source overlay file. Type 4 in the *Opt* column beside the name of the source overlay file you want to delete. You can confirm the choice on the next display before deleting the file. When the source overlay file is deleted, all source overlays in the file are also deleted. See “4=Delete Source Overlay File” on page 91 for more information.
7=Rename	Changes the name of a source overlay file. Type 7 in the *Opt* column beside the source overlay file you want to rename.

Option	Description
8=Display description	Displays the description of a source overlay file. Type 8 in the *Opt* column beside the name of the source overlay file for which you want to display its description. See “8=Display Description of Source Overlay File” on page 92 for more information.
12=Work with source overlays	Starts working with source overlays in a source overlay file. Type 12 in the *Opt* column beside the name of the source overlay file which contains source overlays you want to work with. See Chapter 5, “Work with Source Overlays” on page 59 for more information.

Columns

Column	Description
Opt	Specifies the number of the task in the *Opt* prompt beside the source overlay file you want to perform the task with. You can type the same option next to more than one source overlay file at a time, and you can also type different options next to different source overlay files at the same time.
File	Shows a list of all the source overlay files in the specified library or library list that meets the subset criteria. You can use the top position in the list to type a source overlay file you want to create or select another option. **Note:** If a file meets the following four conditions, it is shown on the Work with Source Overlay Files display as a source overlay file even if it is not created as a source overlay file. • The file is a physical file • The file is not a source file • The file is not a DDM file • The record length is 80 It is recommended to use the file you created using the overlay utility.
Library	The name of the library in which the source overlay file resides is shown.
Text	The text description of the source overlay file is shown.
Changed	The latest date you changed a source overlay in the source overlay file or you changed the description text of the source overlay file is shown.

Specify one of the options in the *Opt* column and press Enter.

You can exit from this display by pressing F3 (Exit) or F12 (Cancel).

Showing a Source Overlay File List

The source overlay files can be listed on the lower part of the display by specifying the *Library* field and *File* field. When you want to change the contents of the list, specify the name of file and library, and press the Enter key. You can page up or down the list on the display by specifying the starting characters in the *Position to* prompt.

Note: When you specify either the *File* field or the *Library* field, you can **not** specify the *Opt* column.

Selecting a Source Overlay File from a List

The list on the display contains the names of all or a specified subset of source overlay files that exist in the library (or libraries) indicated by the *Library* prompt. (However, only the source overlay files and libraries for which you have the necessary authority are shown.) The text that describes the source overlay files and the date the file was last changed are also shown in the list.

When a list is shown, a one-word indicator always appears below and to the right of the list to tell you where you are in the list. **More...** means that there are more items after the item currently shown. **Bottom** means that you are at the end of the list.

Use the Page or Roll keys to move forward or backward through the list.

If you are creating a source overlay file, you can check this list to see what names are already used before you choose a new name. You can create a source overlay file by typing 1, a source overlay file name, and a library name in the first list position. You can select other source overlay files from the list using any of the options except 1 (Create).

Therefore, you can select one or more names by doing one or both of the following:

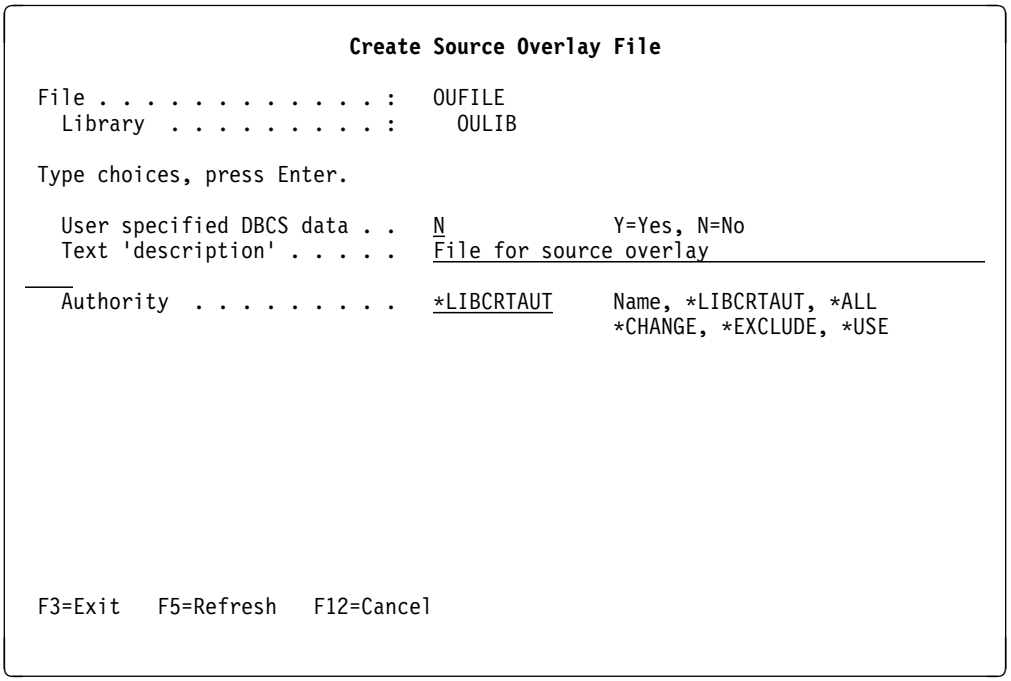
- In the *Opt* column beside the source overlay file name in the list that you want to use, type the option number (task) to be used.
- In only the first (top) position of the list, type an option number (for the task), a source overlay file name and a library name in the *Opt*, *File*, and *Library* columns respectively.

1=Create Source Overlay File

To create a source overlay file do the following on the Work with Source Overlay Files display.

1. Type a source overlay file name in the *File* column, and a library name in the *Library* column in the first line of the list.
2. Type a 1 in the *Opt* column.
3. Press Enter.

The Create Source Overlay File display appears:


Create Source Overlay File
File . . . . . : OUFILE
Library . . . . . : OULIB
Type choices, press Enter.
User specified DBCS data . . N Y=Yes, N=No
Text 'description' . . . . . File for source overlay
Authority . . . . . *LIBCRTAUT Name, *LIBCRTAUT, *ALL
*CHANGE, *EXCLUDE, *USE
F3=Exit F5=Refresh F12=Cancel

Using the Create Source Overlay File display, you can create a source overlay file from the information specified on this display.

The Work with Source Overlays display appears after the source overlay file is created so that you can create source overlays in the source overlay file.

The following table explains each field of the Create Source Overlay File display.

Field Name	Description
File	Shows the name of the source overlay file you are going to create.
Library	Shows the name of the library in which the source overlay file is created.
User specified DBCS data	Specifies N (No) or Y (Yes) in this prompt to specify whether or not Double-Byte Character Set (DBCS) data is used in the text data of the source overlay in the source overlay file. **Note:** This prompt appears only when your system is DBCS capable.

Field Name	Description
Text 'description'	Specifies a short description of the source overlay file in this prompt. This description is saved with the source overlay file and displayed when the source overlay files are listed to help you identify the source overlay files. For example, type a short description of your source overlay file, such as: `Practice source overlay file.`
Authority	Specifies the authority you are giving the users who do not have specific authority to the file, who are not on the authorization list, and whose users' group has no specific authority to the file. The possible values are: ***LIBCRTAUT** The system determines the authority for the file by using the value specified on the *Create authority* prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the file to be created. If the value specified on the *Create authority* prompt (CRTAUT parameter) is changed, the new value will not affect any existing files. ***ALL** The user can control the file's existence, specify the security for the file, change the file, change the owner for the file, and perform basic functions on the file. ALL authority allows the user to perform all operations on the file except those limited to the owner or controlled by authorization list management rights. ***CHANGE** The user can change the file and perform basic functions on the file. CHANGE authority allows the user to perform all operations on the file except those limited to the owner or controlled by object existence authority and object management authority. CHANGE authority provides object operational authority and all data authority. ***EXCLUDE** EXCLUDE authority prevents the user from accessing the file. ***USE** The user can perform basic operations on the file, such as read a file. The user is prevented from changing the file. USE authority provides object operational authority and read authority. **authorization-list-name** Specify the name of an authorization list. Users included on the authorization list are those granted authority to the file as specified by the list. The authorization list must exist when the file is created.

Press the Enter key after you specify the choices.

2=Change Source Overlay File Description

To change the source overlay file description, do the following on the Work with Source Overlay Files display.

1. Type a 2 in the *Opt* column beside the source overlay file for which you want to change the description.
2. Press Enter.

The Change Source Overlay File display appears:

```
                          Change Source Overlay File

 File . . . . . . . . . . . . :   OUFILE
   Library  . . . . . . . . . :     OULIB

 Type choices, press Enter.

   Text 'description' . . . . .   File for source overlays
____

 F3=Exit   F5=Refresh   F12=Cancel
```

Using the Change Source Overlay File display, you can change the description text of a source overlay file.

Specifies a new text description of the source overlay file.

The following table explains each field of the Change Source Overlay File display.

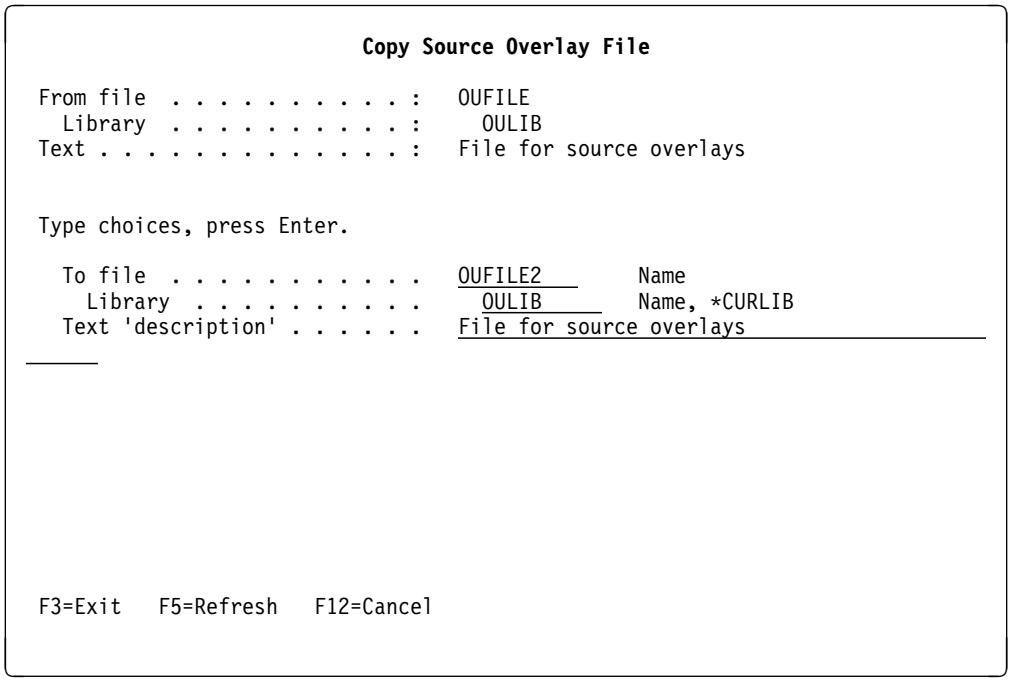
Field Name	Description
File	Shows the name of the source overlay file you are going to change.
Library	Shows the name of the library in which the source overlay file resides.
Text 'description'	Specifies the User-defined text that briefly describes the file and its function. The text specified here replaces any previous text.

Press the Enter key after you specify the choices.

3=Copy Source Overlay File

To copy a source overlay file, do the following on the Work with Source Overlay Files display.

1. Type a 3 in the *Opt* column beside the name of the source overlay file you want to copy.
2. Press Enter.


Copy Source Overlay File
From file . . . . . : OUFILE
Library . . . . . : OULIB
Text . . . . . : File for source overlays
Type choices, press Enter.
To file . . . . . OUFILE2 Name
Library . . . . . OULIB Name, *CURLIB
Text 'description' . . . . . File for source overlays
F3=Exit F5=Refresh F12=Cancel

Using the Copy Source Overlay File display, you can copy a source overlay file to a new source overlay file. The entire set of source overlays will be copied to the new file.

The following table explains each field of the Copy Source Overlay File display.

Field Name	Description
From file	Shows the name of the source overlay file you are going to copy from.
Library	Shows the name of the library in which the source overlay file resides.
Text	Shows the text description of the source overlay file being copied.
To file	Specifies the new source overlay file you are going to copy to. This prompt has the same file name as the from file name. Leave the default if you want to copy the file to a different library with the same file name.
Library	Specifies the library you are going to copy the source overlay file to. This prompt has the same library name as the from library name. Leave the default if you want to copy the file to a different file in the same library. The possible values in this field are: ***CURLIB** The current library for the job is used to store the copied file. **name** The specified library name is used to store the copied file.

Field Name	Description
Text 'description'	Specify a short description of the source overlay file in this prompt or leave the default if you want to copy the file with the same file description as the from file description. This description is saved with the source overlay file and displayed when the source overlay files are listed to help you identify the source overlay files.

Press the Enter key after you specify the choices.

4=Delete Source Overlay File

To delete a source overlay file, do the following on the Work with Source Overlay Files display.

1. Type a 4 in the *Opt* column beside the name of the source overlay file you want to delete.
2. Press Enter.

The Confirm Delete of Source Overlay Files display appears:

```
                    Confirm Delete of Source Overlay Files

Press Enter to confirm your choices for 4=Delete.
Press F12 to return to change your choices.

     Source
     Overlay
Opt  File        Library     Text                           Changed
 4   OUFILE2     OULIB       Source overlay file 2          12/12/90
 4   OUFILE3     OULIB       Source overlay file 3          12/12/90
 4   OUFILE4     OULIB       Source overlay file 4          12/12/90









                                                                    Bottom
F11=Display names only   F12=Cancel
```

Using the Confirm Delete of Source Overlay Files display, you can confirm that you want to delete the files you chose by selecting option 4 (Delete) on the Work with Source Overlay Files display.

Note: You can delete only the source overlay files for which you have the authority to do so. If you do not have *OBJOPR and *OBJEXIST authority for a source overlay file, that source overlay file is not deleted.

You should use the displayed list of names to verify that you want to delete all of the source overlay files shown. If all of them **are** to be deleted, press Enter to delete them. If any of them should **not** be deleted, press F12 (Cancel). If you press F12, you return to the Work with Source Overlay Files display with all

selections still shown, and you can remove 4 from the column beside the source overlay file you do not want to delete.

The following table explains each field of the Confirm Delete of Source Overlay File display.

Field Name	Description
Opt	The option field shows the delete option which causes the confirmation display to be shown. For this display, the option number is always 4.
File	Shows a list of all source overlay files you chose to delete.
Library	Shows the name of the library in which the source overlay file resides.
Text	Shows the text description of the source overlay file.
Changed	The latest date you changed a source overlay in the source overlay file or you changed the description text of the source overlay file is shown.

Press the Enter key to delete them, or press the F12 key to cancel the operation.

7=Rename Source Overlay File

To rename a source overlay file do the following on the Work with Source Overlay Files display.

1. Type a 7 in the *Opt* column beside the source overlay file.
2. Press Enter.

The Rename Object display appears. Type the new name of the source overlay file in the *New object* field.

8=Display Description of Source Overlay File

To display the description of the source overlay file, do the following on the Work with Source Overlay Files display:

1. Type 8 in the *Opt* column beside the source overlay file for which you want to display the description.
2. Press Enter.

The display object description (DSPOBJD) command is called and the description of the source overlay file is displayed.

12=Work with Source Overlays

You can start working with source overlays from the Work with Source Overlay Files display by the following steps:

1. Type 12 in the *Opt* column beside the source overlay file that contains the source overlay you want to work with.
2. Press Enter.

The Work with Source Overlays display appears.

See Chapter 5, “Work with Source Overlays” on page 59 for more information.

Print Format Utility

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Chapter 7. Introduction to Print Format Utility

The **Print Format Utility** enables you to develop AFP applications directly from AS/400 database files. In a manner similar to Query for AS/400, database records are selected and processed into full pages of output combining variable data, text, overlays, bar codes, lines, boxes, image, and graphics. All of the instructions built during the Print Format Utility design process are stored as print format definitions (PFD). The ability of the Print Format Utility to design individual record layouts and then replicate those layouts across and down the page make it very productive with applications such as multiple-up barcoded labels.

In addition to the data from database file members, you can print fixed data that is defined by any of the element types (text, boxes, lines, bar codes, page segments, or graphics). Examples of fixed data are:

- Titles
- Company logos
- Drawings

You can also print variable data that are not defined in the database member, such as:

- Job date
- Job time
- Page number
- Record number
- Database file name
- Database library name
- Database member name

To print data with the Print Format Utility, you need to create a **PFD definition** to specify the print format of the data from the menu panel display interactively.

Printout Format Definition (PFD Definition)

A PFD definition provides the necessary information about the data, forms, and formats which you want to print.

You need to provide the following information in a PFD definition.

PFD Specifications

The specifications contain the following:

- Printer type
- Characters per inch
- Lines per inch
- Degree of rotation
- Whether or not you want page numbers on each page
- Unit of measure
- Initial element measurement method
- Page size
- Offset
- Grid (design aid) position

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If nothing is specified, the default values are used.

PFD Definition Fonts

Fonts are predefined, but you can change PFD definition fonts if you want.

Database File

You can specify which fields of data in the database file are printed.

You can specify the name of the database file, library, and record format. If you do not specify them in a PFD definition, you need to specify them when you print a database file member. You can also specify fields in the database file to cause a page break.

Record Layout

The Print Format Utility manages two kinds of records which are distinguished depending on their definitions as follows:

- The record defined in the database file. It is referred to as a "**database file record**."
- The record defined by Print Format Utility as a unit or set of data to be printed. It is simply referred to as a "**record**." A record consists of data from a database file record and other data such as text, lines, boxes, and bar codes you define for the record.

You must define how you lay out the data, which are called **elements**, in a record as a **record layout**.

For example, you can print the following label from a record in a database file member using Print Format Utility.

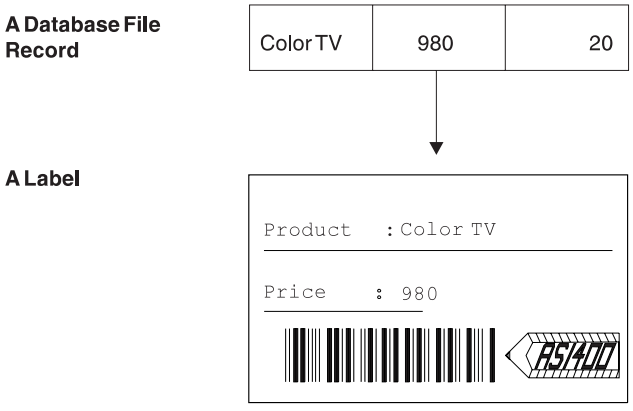


Figure 17. Record Layout Sample

On the above label, the product name 'Color TV', the price '980', and the bar code which is coded from the price are picked up from the fields in the database file record. Other data in the label such as 'Product :', 'Price :', lines, and logos are defined in this record for the label independently of the data in the database file record.

You can also print some variable data such as job date, job time, page number, record number, database file name, library name, and member name by specifying

character strings which are called **reserved variable names** in the text data on a text element or a box element.

Page Layout

You must also define how to lay out the records, which are described in the previous section, in a page as a **page layout**. You need to specify where and how many times to place the defined records in a page. You can specify the fixed data such as text, lines, boxes, bar codes in the same way as you specify them in a record.

The following figure shows the sample page:

Figure 18. Page Layout Sample

You can print some variable data such as job date, job time, page number, record number, database file name, library name, and member name by specifying character strings which are called **reserved variable names** in the text data on a text element or a box element.

You can also print variable data, such as the field value of the first record in the group, the field value of the last record in the group, the total of the field values in

the group, the average of the field values in the group, the maximum field value in the group, the minimum field value in the group, and the record counts of the group, by specifying character strings which are called **summary data** in the text data on a text element or a box element.

Elements

The record layout and the page layout are defined by placing text, page segments, lines, boxes, graphics, or bar codes, which are called **elements**.

The data in the database file record can be specified as text elements, bar code elements, the text in box elements, page segments, or graphics elements in a record layout.

The fixed data can be specified as text elements, line elements, box elements, bar code elements, page segment elements, or graphics elements in the record layout or the page layout.

If you print data in a field as a text element, text in a box element, a bar code element, a page segment, or a graphics element, specify the field name which is appended by an ampersand (&) before the name and a period (.) after the name as a parameter of the element data.

See Chapter 13, “Design Operation” on page 219 for more information.

Record Selection

You can specify a condition for the field in the database file record to select data in the field to be printed. When you don't specify this option, all data in the database file record is printed.

Printout Specifications

The Define Printout Specifications display allows you to define how the printout will be printed, such as:

- Number of copies
- Print quality
- Source drawer

Mapping Object Name

You can specify a field name as any of the following object names:

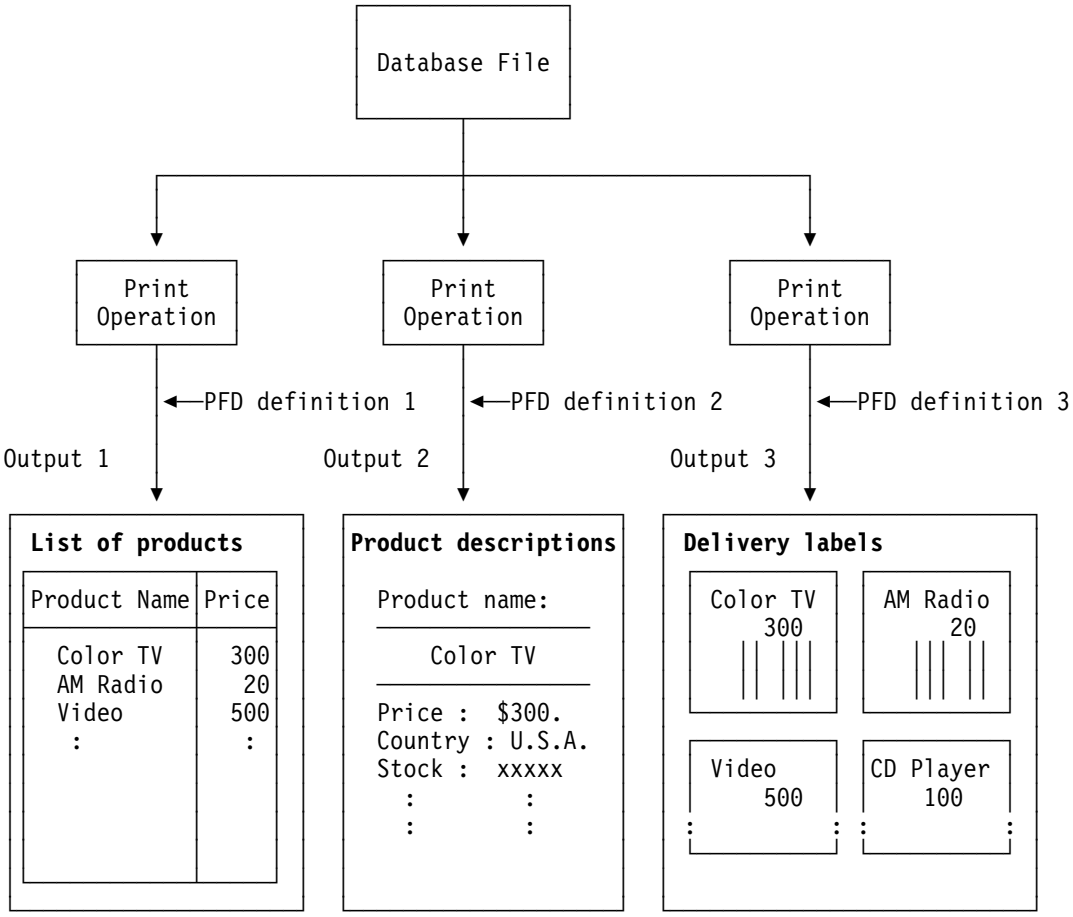
- Page segment
- Folder
- PC document
- Library
- File
- Member

The value of the field in the input database file is used as the object name. In some cases, the values in the database file may not be appropriate for object names. For example, values like 'A.B.C' or 'IBM Corporation' cannot be object names. You do not need to change the data in the database file. Instead, you should specify mappings from these values to object names on the Specify Mapping Object Name display.

Printing with Print Format Utility

The Print Format Utility allows you to save the PFD definition as an AS/400 file member so that the same definition can be used the next time you print a database file member. Once you save a PFD definition, you can make a new PFD definition based on the PFD definition by changing it from the display.

You can print various kinds of printout from one database file member by preparing various PFD definitions. For example, you can create a **list of products**, **product descriptions**, and **delivery labels** as shown below from one database file member by using different printout format definitions.



Operation Flow

Figure 19 shows the overview of the print format utility operation.

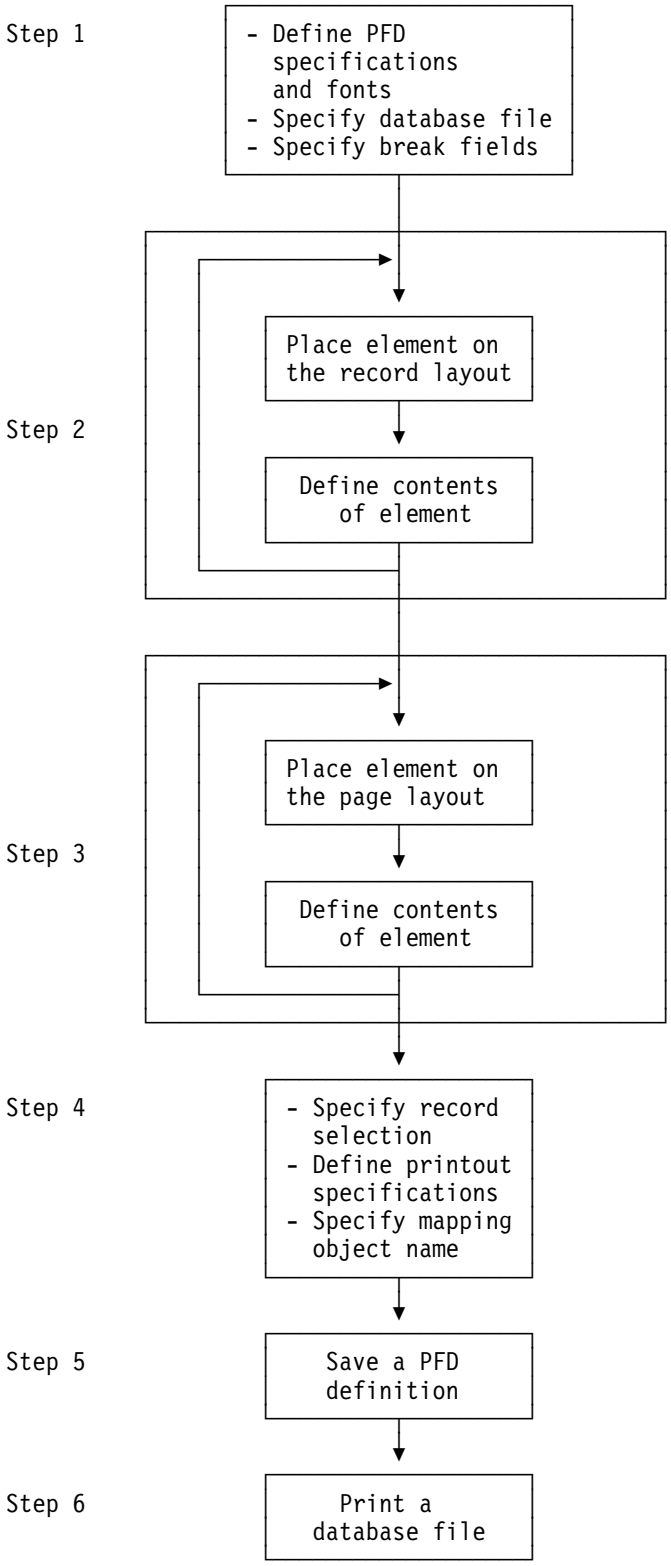


Figure 19. Overview of Print Format Utility Operation

Step 1. This is an optional step.

You can change the default values of the PFD specifications; such as the offset, the lines per inch (LPI), the characters per inch (CPI), the unit of measure, the DBCS SO/SI spacing, the degree of rotation, and the printer type. See “Define PFD Specifications” on page 146 for more information.

You can change the fonts used to print text. See Chapter 14, “Work with Fonts” on page 289 for more information.

You can specify the database file to be printed. Though this is optional, it is encouraged to specify the database file because you can easily specify field names in step 2. See “Specify Database File” on page 154 for more information.

You can also specify fields in the database file which cause page breaks. See “Specify Break Fields” on page 157 for more information.

Step 2. Design the record layout.

Repeat the following operations:

a. Position the cursor on the screen where you want to enter an element such as text, box, and so on.

b. Place the element in the record layout by pressing the function key assigned for the element.

c. Type the element specification. After entering the data, a mark is assigned for the element by the Print Format Utility. The mark is placed at the element position on the screen.

See “Design Record Layout” on page 158 for more information.

Step 3. Design the page layout.

Repeat the following operations:

a. Position the cursor on the screen where you want to enter an element such as text, box, and so on.

b. Place the element in the page layout by pressing the function key assigned for the element.

c. Type the element specification. After entering the data, a mark is assigned for the element by the Print Format Utility. The mark is placed at the element position on the screen.

See “Design Page Layout” on page 165 for more information.

Step 4. This is an optional step.

You can specify which records to print by specifying up to five logical conditions. See “Specify Record Selection” on page 179 for more information.

You can change the default values of the printout specifications; the number of copies, the print quality, and the source drawer. See “Define Printout Specifications” on page 182 for more information.

You can specify the mapping of variable data to an object name. See “Specify Mapping Object Name” on page 185 for more information.

Step 5. After defining the PFD definition, save it in your library. See “Saving PFD Definition” on page 188 for more information.

Step 6. Print a database file using the PFD definition. See Chapter 12, “Print Database File Member” on page 207 for more information.

The following chapters show you how to:

- Get started with the Print Format Utility and use it by practically performing an exercise.
- Start and end the Print Format Utility
- Work with a PFD definition
  - Create a PFD definition
    - Define PFD specifications
    - Work with PFD definition fonts
    - Specify database file and record format
    - Specify break fields
    - Design a record layout
    - Design a page layout
    - Specify record selection
    - Define printout specifications
    - Specify mapping object name
  - Change a PFD definition
  - Copy a PFD definition
  - Delete a PFD definition
  - Rename a PFD definition
  - Print a PFD definition
- Work with a PFD definition file
  - Create a PFD definition file
  - Change a PFD definition file description
  - Copy a PFD definition file
  - Delete a PFD definition file
  - Rename a PFD definition file
  - Display a PFD definition file description
  - Work with PFD definitions
- Print a database file member

While using IBM Advanced Function Printing Utilities for AS/400, you can press the F1 key to display help information.

Chapter 8. Getting Started with Print Format Utility

This chapter describes how to print data from a database file member with the Print Format Utility by showing a practical printing exercise.

The operational steps of printing with the Print Format Utility are as follows:

Step 1. Starting the Print Format Utility.

Step 2. Creating a PFD definition file in a library.

Step 3. Creating a PFD definition in a PFD definition file that you created in step 2. This step consists of the following sub-steps:

a. Specifying a database file
b. Designing a record layout
c. Designing a page layout
d. Defining printout specifications
e. Saving a PFD definition

Step 4. Printing a database file based on the PFD definition.

Step 5. Ending the Print Format Utility.

Step 6. Printing the AFP Utilities tutorial

Note: If your printer does not support bar codes, you should specify your printer type on the Define PFD Specifications display in the creating a PFD definition step. AFP Utilities for AS/400 generate appropriate data to print bar codes on your printer. See “Limitations for Each Printer” on page 414 to check if your printer supports them.

A page segment is needed to perform the following task. Page segment QFCLOGO should exist in library QGPL. If it does not exist, copy page segment QFCPAGS from library QAFP to library QGPL as page segment QFCLOGO. You can use the Create Duplicate Object (CRTDUPOBJ) command to do this.

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Step 1 - Starting the Print Format Utility

Example Actions: To start AFP Utilities for AS/400, type `STRAFPU` (Start Advanced Function Printing Utilities/400) on the AS/400 command line and press Enter.

The IBM Advanced Function Printing Utilities for AS/400 menu appears:

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> 12
_____________________________________________________________________
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F16=System main menu
(C) COPYRIGHT IBM CORP. 1991, 1993.
```

From this display, you can select any function of AFP Utilities.

The Print Format Utility functions are:

Selection	Function
11	Work with PFD definitions
12	Work with PFD definition files
13	Print database file member
14	Print AFP Utilities tutorial

Before you create a PFD definition, you must create a **PFD definition file** to store it.

Note: You need a library to store a PFD definition file. MYLIB is used in the following example, but you may use the name of your library instead. If you do not have any libraries, create a library by typing `CRTLIB MYLIB` and pressing the Enter key.

Step 2 - Creating a PFD Definition File

Example Actions: To create a PFD definition file, type 12 (Work with PFD definition files) on the command line on the IBM Advanced Function Printing Utilities for AS/400 menu and press the Enter key.

The Work with PFD Definition Files display appears to create a PFD definition file.

```
                        Work with PFD Definition Files

Type choices, press Enter.

  Library  . . . . . .  MYLIB      Name, *USRLIBL, *LIBL
                                   *CURLIB, *ALLUSR, *ALL
  File . . . . . .  *ALL      Name, generic*, *ALL

Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F12=Cancel
```

The library name that you used last is displayed in the *Library* prompt and *ALL is displayed in the *File* prompt.

Example Actions: Type MYLIB in the *Library* prompt and press the Enter key to list PFD definition files stored in MYLIB.

```
                        Work with PFD Definition Files

Library . . . . . .  MYLIB      Name, *USRLIBL, *LIBL, *CURLIB...
File  . . . . . .  *ALL      Name, generic*, *ALL
Position to . . . . . .  _____      Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   7=Rename   8=Display description
  12=Work with PFD definitions

Opt  File        Library     Text                          Changed
1    PFDFILE     MYLIB

  (No PFD definition files in library)

                                                                      Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

Note: No PFD definition file is shown because no PFD definition files are stored in MYLIB.

Example Actions:

1. Type 1 (Create) in the *Opt* column on the first line of the list.
2. Type PFDFILE in the *File* column on the first line of the list.
3. Type MYLIB in the *Library* column on the first line of the list.
4. Press the Enter key.

The Create PFD Definition File display appears:

```
                          Create PFD Definition File

File . . . . . :   PFDFILE
  Library  . . . . . :     MYLIB

Type choices, press Enter.

  User specified DBCS data . .   N              Y=Yes, N=No
  Text 'description' . . . . .   PFD file for exercise
____
  Authority  . . . . . .  .      *LIBCRTAUT     Name, *LIBCRTAUT, *ALL
                                                *CHANGE, *EXCLUDE, *USE

F3=Exit   F5=Refresh   F12=Cancel
```

From this display you can specify:

- Whether or not DBCS data will be used (only when you are on a DBCS system).
- A short description of the PFD definition file up to 50 SBCS characters long. This description is saved with the PFD definition file and displayed when the PFD definition files are listed to help you to identify the PFD definition files.
- Authority given to users who do not have specific authority to the PFD definition file.

Example Actions:

1. Do not change the default value for the *User specified DBCS data* prompt.

   Note: This prompt appears only when your system is DBCS capable.
2. Type PFD file for exercise for the *Text 'description'* prompt.
3. Press the Enter key.

When the PFD definition file is created, the Work with PFD Definitions display appears to create a PFD definition in the file.

Step 3 - Creating a PFD Definition

To print data from a database file, you must create a PFD definition from the Work with PFD Definitions display. The AFP Utilities for AS/400 print the data according to your PFD definition.

```
                          Work with PFD Definitions

File  . . . . . .   PFDFILE      Name, F4 for list
  Library . . . . .   MYLIB      Name, *LIBL, *CURLIB
PFD definition  . . . . .  *ALL  Name, generic*, *ALL
Position to . . . . . .          Starting characters

Type options, press Enter.
  1=Create  2=Change  3=Copy  4=Delete  6=Print PFD definition  7=Rename
  9=Print database file

     PFD
Opt  Definition  Text                                          Changed
 1   PRODUCTLBL

  (No PFD definitions in file)


                                                                  Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

For example, the following describes how to create a PFD definition in PFD file 'PFDFILE' located in library 'MYLIB' to print the label below from the database file 'QAFCPFDDTA' in library QGPL.

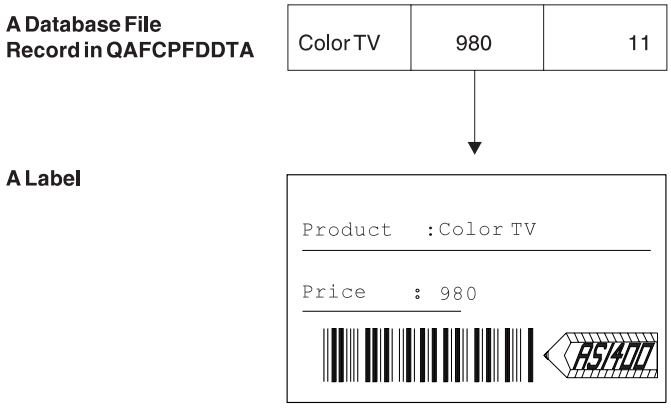
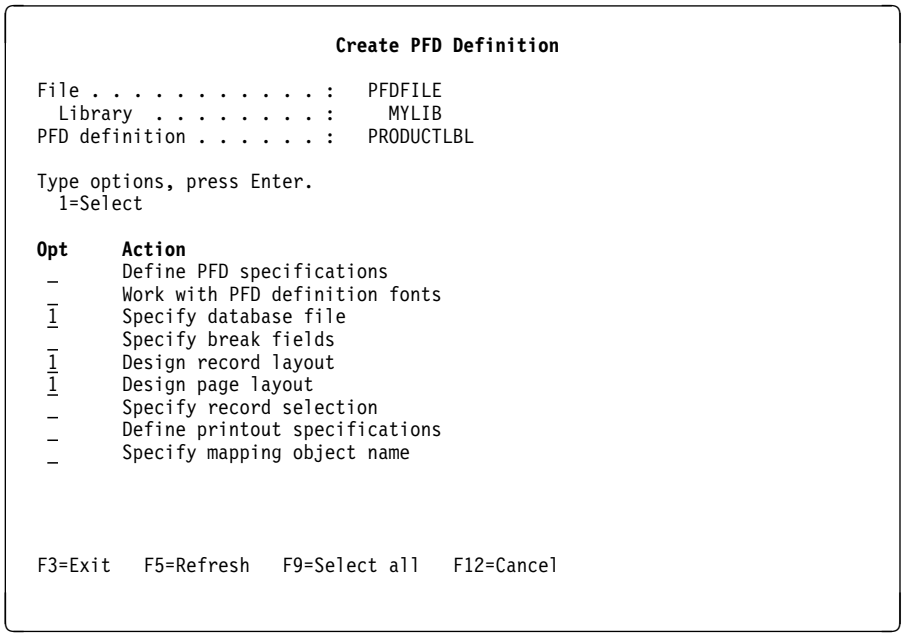


Figure 20. Sample Label

Example Actions:

1. Type 1 (Create) in the *Opt* column in the first line of the list.
2. Type the PFD definition name PRODUCTLBL in the *PFD Definition* column in the first line of the list.
3. Press the Enter key.

The Create PFD Definition display allows you to select the action items for creating a PFD definition.


Create PFD Definition
File . . . . . : PFDFILE
Library . . . . . : MYLIB
PFD definition . . . . . : PRODUCTLBL
Type options, press Enter.
1=Select
Opt Action
Define PFD specifications
Work with PFD definition fonts
1 Specify database file
Specify break fields
1 Design record layout
1 Design page layout
Specify record selection
Define printout specifications
Specify mapping object name
F3=Exit F5=Refresh F9=Select all F12=Cancel

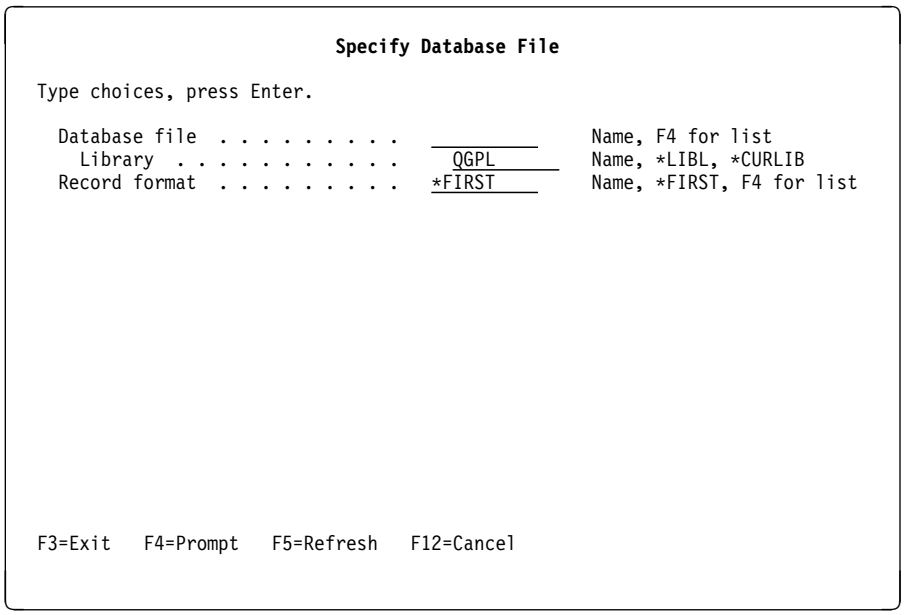
The actions with a 1 in the *Opt* column are the mandatory actions to create a PFD definition. Other actions for which the *Opt* column is left blank are optional.

Example Actions:

1. Type 1 in the *Opt* column beside *Define printout specifications*.
2. Press the Enter key.

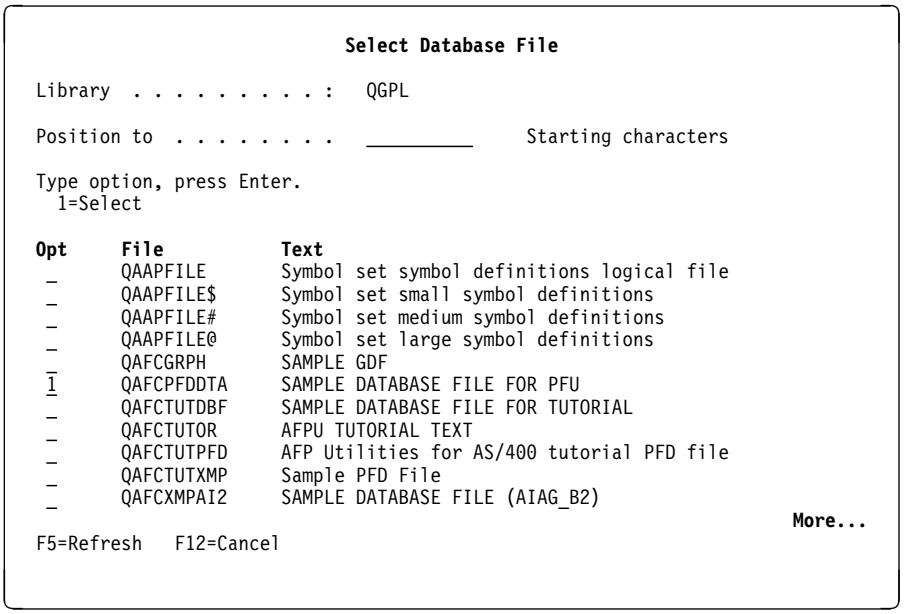
The Specify Database File display appears.

Specifying a Database File


Specify Database File
Type choices, press Enter.
Database file . . . . . Name, F4 for list
Library . . . . . QGPL Name, *LIBL, *CURLIB
Record format . . . . . *FIRST Name, *FIRST, F4 for list
F3=Exit F4=Prompt F5=Refresh F12=Cancel

Example Actions:

1. Type QGPL in the *Library* prompt.
2. Move the cursor to the *Database file* prompt and press the F4 key to list the database files in library QGPL.



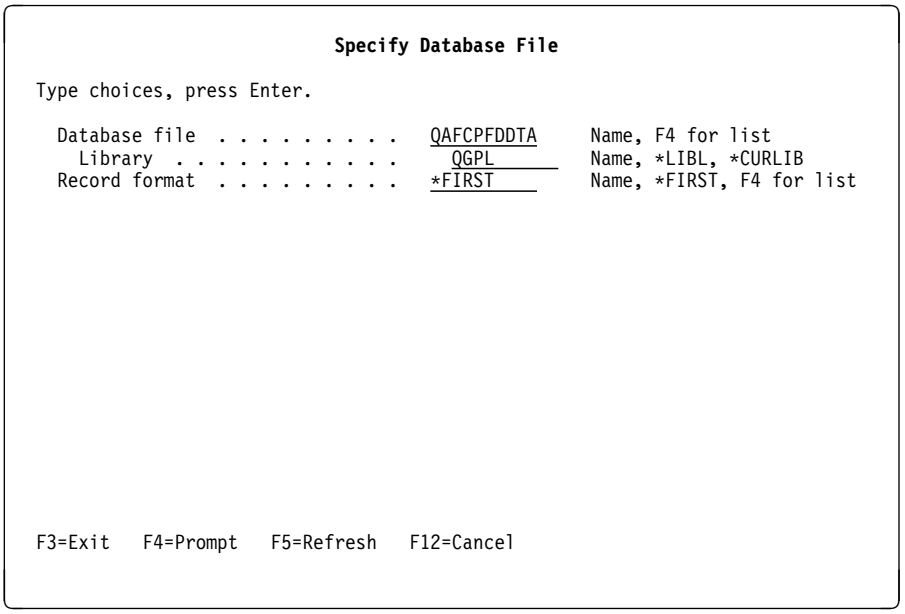
```
                          Select Database File

Library  . . . . . . . . . :   QGPL

Position to  . . . . . . . .   _________     Starting characters

Type option, press Enter.
  1=Select

Opt     File           Text
 _      QAAPFILE       Symbol set symbol definitions logical file
 _      QAAPFILE$      Symbol set small symbol definitions
 _      QAAPFILE#      Symbol set medium symbol definitions
 _      QAAPFILE@      Symbol set large symbol definitions
 _      QAFCGRPH       SAMPLE GDF
 1      QAFCPFDDTA     SAMPLE DATABASE FILE FOR PFU
 _      QAFCTUTDBF     SAMPLE DATABASE FILE FOR TUTORIAL
 _      QAFCTUTOR      AFPU TUTORIAL TEXT
 _      QAFCTUTPFD     AFP Utilities for AS/400 tutorial PFD file
 _      QAFCTUTXMP     Sample PFD File
 _      QAFCXMPAI2     SAMPLE DATABASE FILE (AIAG_B2)
                                                                    More...
F5=Refresh   F12=Cancel
```

The database files stored in library QGPL are listed. You can select a database file by typing a 1 in the *Opt* column beside the database file name in the list.

Example Actions:

1. Type 1 in the *Opt* column beside QAFCPFDDTA.
2. Press the Enter key.

The Specify Database File display appears again with the selected database file name in the *Database file* prompt.



```
                          Specify Database File

Type choices, press Enter.

  Database file  . . . . . .   QAFCPFDDTA     Name, F4 for list
    Library  . . . . . . . .     QGPL         Name, *LIBL, *CURLIB
  Record format  . . . . . .   *FIRST         Name, *FIRST, F4 for list

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

Example Actions:

1. Press the Enter key. The value in the *Record format* prompt changes from *FIRST to PRODMASTER.
2. Press the Enter key.

The Design Record Layout display appears.

Designing a Record Layout

```
                              Design Record Layout          Columns:   1- 74
Control  . . _____     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit         F6=Text             F9=Line           F10=Box
F11=Bar code    F21=Element edit    F22=Block edit    F24=More keys
```

There are two kinds of records which are distinguished depending on their definitions as follows:

- The record defined in the database file is referred to as a "**database file record**."
- The record defined by the Design Record Layout process of the Print Format Utility will be referred to as a "**record**" or "**record layout**."

From this display you can specify the layout of the data in a record. Initially, there is nothing defined in the record. From this display, you can define the record layout, that is, which field of the record in the database file or what kinds of elements such as lines, boxes, or bar codes are printed at what location in the record.

The following are different types of data you can specify in a record:

Variable Data Field data from a database file is called **variable data**.

Text	You can specify not only their locations on the page, but also color, direction, and so on.
Bar Codes	You can specify not only their locations on the page, but also color, direction, and so on.
Image	You can specify the mapping of data in a database file to a page segment name.

Graphics You can specify the mapping of data in a database file to the name of a folder, a document, a library, a file, or a member.

Note: Variable data can be specified only in the record layout.

Fixed Data In addition to the data from a database file, you can define any combination of the following elements, which is called **fixed data**. In a record layout, fixed data is not affected by the contents of the database file to be printed.

Text Text with various fonts, underlined or not, color, and so on.

Line and Box With various length, width, dashed/dotted, shaded, and so on.

Bar Codes For the supported bar code types, see Chapter 13, “Design Operation.”

Image Stored as page segments.

Graphics Stored as graphics elements.

Reserved Variable Data

You can also print variable data, which is resolved during the printing of the database file member such as date, time, and record number. You can specify this data in the text data of a text element or a box element.

The label in Figure 20 on page 107 consists of variable data and fixed data as shown below.

1. Variable data defined in record layout:

   Text The product name (Color TV), and the price (980).

   Bar code The code (11) is printed as a bar code below the price.

2. Fixed data defined in record layout:

   Text 'Product :' and 'Price :'

   Line Box lines around and between the text elements.

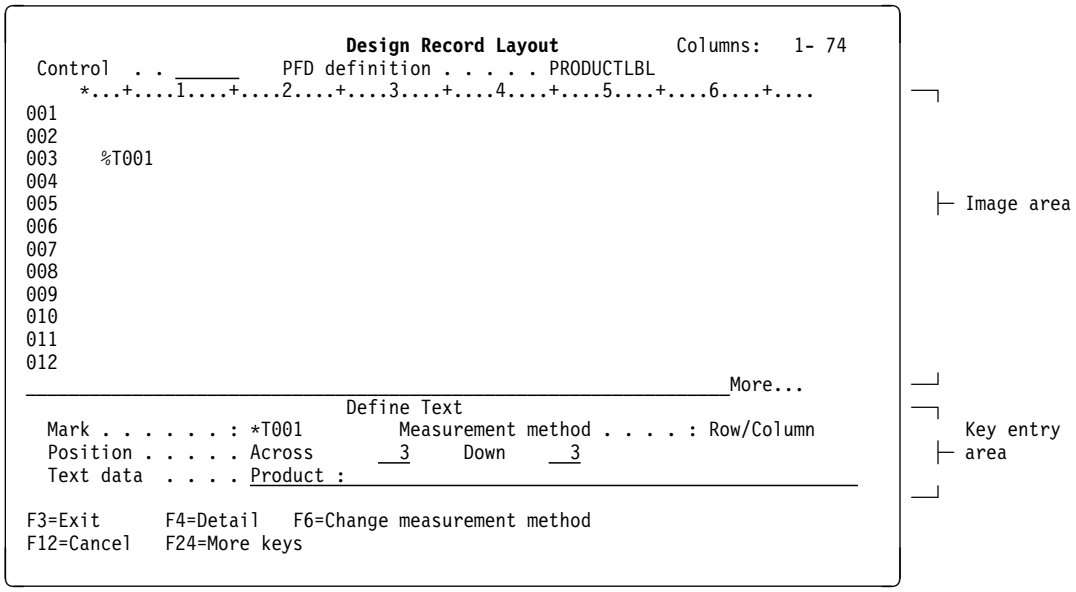
   Image Logo mark at the right bottom.

The following steps describe the process to create the above sample label.

Specifying Fixed Text Data

Example Actions: Move the cursor to the position (Across : 3, Down : 3) where you want to place the text element in the display, and press the F6 key.

The following display appears:



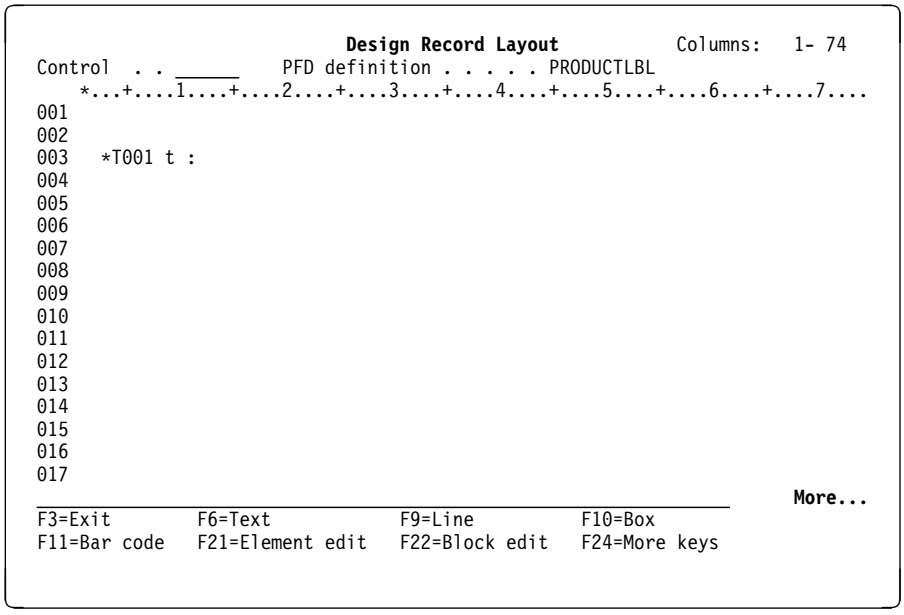
The element mark for the text element (%T001) is displayed at the cursor position, and the **key entry area** appears at the bottom portion of the display. A % indicates that the element is being worked with. The key entry area contains the information of the element you are specifying, such as position.

The upper area of the display where you can place elements is called the **image area**. The image area shows you an approximate image of the printout.

Example Actions:

1. Type `Product :` in the *Text data* prompt.
2. Press the Enter key.

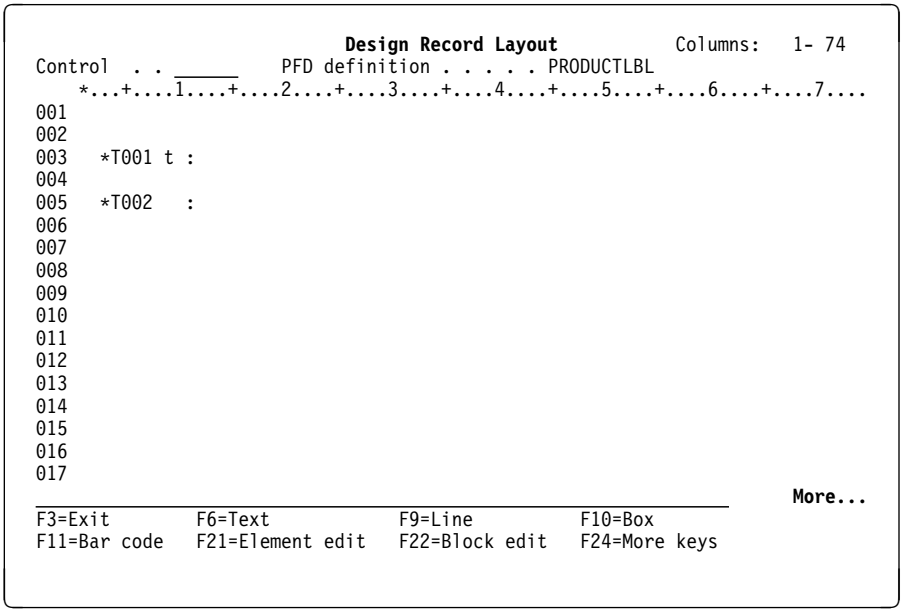
The Design Record Layout display appears as follows.



The symbol before T001 changes from "**%**" to "*****" which shows you that this text element is defined in the record layout.

Example Actions: In the same way, specify another text element which contains "Price :" at (Across:3, Down: 5).

The following display appears:



The text "Price :" is partly covered by its mark *T002.

Note: When you set mark off (F15), only the last mark is displayed and others are not displayed.

Specifying Variable Text Data from a Database File Record

Example Action: Move cursor to the position (Across : 13, Down : 3) where you want to place the product name on the display and press the F6 key.

- If you know the field name of the database file record, type an ampersand (&), the field name, a period (.), and press the Enter key. When the field name is specified this way, letters must be specified in uppercase.
- If you do not know the field name, press the F4 key twice to show the list.

Example Action: Press the F4 key.

The Define Text Detail display appears.

```
                          Define Text Detail

Mark:   *T003             Measurement method:   Row/Column

Type choices, press Enter.

  Position:
    Across . . . . . .  13          1-999
    Down . . . . . . .  3           1-999
  Text data  . . . . .  ____________________________________________
_____________________________________________________________________
_____________________________________________________________________
                                                F4 for list
  Element  . . . . . .  ____        Name
  Format . . . . . . .  1           1=Horizontal, 2=Vertical
  Degree of rotation .  0           0, 90, 180, 270
  Color  . . . . . . .  *DEFAULT    *DEFAULT, 1=Blue, 2=Red
                                    3=Magenta, 4=Green, 5=Cyan
                                    6=Yellow, 7=Brown, 8=Black
  Underline  . . . . .  N           Y=Yes, N=No
                                                          More...
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method
F10=Edit numeric      F12=Cancel
Text data not specified.
```

You can specify all parameters for a text element on the Define Text Detail display.

Note: You can see the Define Detail display by pressing the F4 key for any element as well as text elements.

Example Action: Move the cursor to the *Text data* prompt and press the F4 key.

The Select Field in Record Format display appears.

```
                     Select Field in Record Format

Database file  . . . . . :   QAFCPFDDTA
  Library  . . . . . . . :     QGPL
Record Format  . . . . . :   PRODMASTER

Type option, press Enter.
  1=Select

Opt  Field       Length  Type  Text
 1   NAME            15    C   Product name
 _   CODE             8    C   Product code
 _   NATION          15    C   The country name developed
 _   PRICE          3,0    P   Product price
 _   AMOUNT         4,0    P   Amount of stock









                                                          Bottom
F5=Refresh   F11=Select reserved variable   F12=Cancel
```

You can select the field in a record format by typing a 1 (Select) in the *Opt* column.

Example Actions:

1. Type 1 in the *Opt* column beside NAME.
2. Press the Enter key.

The Define Text Detail display appears again with the selected field name in the *Text data* prompt.

```
                          Define Text Detail

Mark:   *T003             Measurement method:   Row/Column

Type choices, press Enter.

  Position:
    Across . . . . . .  13          1-999
    Down . . . . . .    3           1-999
  Text data  . . . . .  &NAME.
_____________________________________________________________________________
                                                                  F4 for list
  Element  . . . . . .  ____        Name
  Format . . . . . . .  1           1=Horizontal, 2=Vertical
  Degree of rotation . .  0         0, 90, 180, 270
  Color  . . . . . . .  *DEFAULT    *DEFAULT, 1=Blue, 2=Red
                                    3=Magenta, 4=Green, 5=Cyan
                                    6=Yellow, 7=Brown, 8=Black
  Underline  . . . . .  N           Y=Yes, N=No
  Overstrike . . . . .  _           Character
                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method
F10=Edit numeric      F12=Cancel
```

In this case `&NAME.` is displayed because `NAME` is the selected field.

Example Action: Press the Enter key.

The following display appears.

```
                          Design Record Layout          Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003   *T001 t : *T003
004
005   *T002   :
006
007
008
009
010
011
012
013
014
015
016
017
                                                                  More...
F3=Exit        F6=Text           F9=Line          F10=Box
F11=Bar code   F21=Element edit  F22=Block edit   F24=More keys
```

The variable data is defined as a text element, and a mark ***T003** that indicates a text element is displayed at the position of the specified variable record.

Example Action: In the same way, specify another variable text element which contains the data in the PRICE field in the record.

Note: You can concatenate variable data and fixed data by typing in the *Text data* prompt as follows:

```
Price      :  &PRICE.
```

Specifying a Page Segment

You can specify an image in a record in the following process.

Example Action: Move the cursor to the position (Across : 25, Down : 6) where you want to place the image in the display, and press the F13 key.

```
                            Design Record Layout          Columns:   1- 74
Control  . . _____     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003   *T001 t : *T003
004
005   *T002   : *T004 .
006                          %
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
_______________________________________________________________________________
F3=Exit   F6=Place graphics   F9=Place page segment   F12=Cancel
F24=More keys
Press F6 or F9 to place graphics or page segment.
```

A % appears at the cursor position, and the message prompts you to press F6 or F9 to place graphics or page segment.

Example Action: Press the F9 key.

The key entry area appears on the lower part of the display.

```
                          Design Record Layout          Columns:   1- 74
Control  . . ______    PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003   *T001 t : *T003
004
005   *T002   : *T004 .
006                         %S005
007
008
009
010
011
012
                                                                        More...
                              Place Page Segment
 Mark . . . . . : *S005         Measurement method . . . . : Row/Column
 Position . . . . . Across      25     Down      6
 Page Segment . . . QFCLOGO                                  Name

F3=Exit      F4=Detail   F6=Change measurement method
F12=Cancel   F24=More keys
```

Example Actions:

1. Type QFCLOGO in the *Page segment* prompt.
2. Press the Enter key.

Note: See “Page Segment” on page 392 for page segment restrictions.

The display changes as follows.

```
                          Design Record Layout          Columns:   1- 74
Control  . . ______    PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003   *T001 t : *T003
004
005   *T002   : *T004 .
006                         *S005
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit        F6=Text           F9=Line          F10=Box
F11=Bar code   F21=Element edit  F22=Block edit   F24=More keys
```

The image data is defined as a page segment element, and a mark *S005 that indicates a page segment element is displayed at the specified position.

Specifying a Bar Code Element

You can specify a bar code in the record layout in the following process.

Example Actions:

1. Move the cursor to the position (Down : 7, Across : 3) where you want to place a bar code in the display.
2. Press the F11 key.

The key entry area appears.

```
                              Design Record Layout          Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003   *T001 t : *T003
004
005   *T002   : *T004 .
006                           *S005
007   %C006
008
009
010
011
012
                                                                        More...
                                  Define Bar Code
 Mark . . . . . : *C006          Measurement method . . . . . : Row/Column
 Position . . . . . Across      3     Down      7     Bar code type . . . 1
 Bar code data  . . &CODE.

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

Example Actions:

1. Type 1 in the *Bar code type* prompt.
2. Type `&CODE.` in the *Bar code data* prompt.
3. Press the Enter key.

Note: If you do not know the field name, do the following operations:

1. Type 1 in the *Bar code type* prompt and press the F4 key.
2. On the Define Bar Code Detail display, move the cursor to the *Bar code data* prompt and press the F4 key.
3. On the Select Field in Record Format display, type a `1` in the *Opt* column beside the field you want to select.
4. Press the Enter key.

   The Define Bar Code Detail display appears.
5. Press the Enter key twice.

   The Design Record Layout display appears.

```
                          Design Record Layout          Columns:   1- 74
Control  . . _____     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003   *T001 t : *T003
004
005   *T002   : *T004 .
006                         *S005
007   *C006
008
009
010
011
012
013
014
015
016
017
                                                                        More...
_____________________________________________________________________________
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

The bar code which is created from the specified field in the database file record is defined, and a mark `*C006` that indicates a bar code element is displayed.

Specifying a Box Element

You can draw a box in the record layout.

Example Action: Move the cursor to the position (Across : 1, Down : 1) of a corner of the box and press the F10 key.

An element mark `%B007` appears at the position, and a message prompts you to press the F10 key again.

```
                          Design Record Layout          Columns:   1- 74
Control  . . _____     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001 %B007
002
003   *T001 t : *T003
004
005   *T002   : *T004 .
006                         *S005
007   *C006
008
009
010
011
012
013
014
015
016
017
                                                                        More...
_____________________________________________________________________________
F3=Exit           F5=Refresh   F10=Box    F12=Cancel
F15=Mark on/off   F16=Hide     F19=Left   F20=Right
Specify opposite corner of box and press F10.
```

Example Action: Move the cursor to the position (Across : 35, Down : 9) of the opposite corner of the box and press the F10 key.

A box is drawn in the image area and the key entry area appears on the lower part of the display.

```
                              Design Record Layout          Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001 %B007 ----------------------------+
002 :                                  :
003 : *T001 t : *T003                  :
004 :                                  :
005 : *T002   : *T004 .                :
006 :                          *S005   :
007 : *C006                            :
008 :                                  :
009 +----------------------------------+
010
011
012
                                                                        More...
                                  Define Box
 Mark . . . . . : *B007          Measurement method . . . . : Row/Column
 Start position . . Across      __1     Down      __1
 End position . . . Across      _35     Down      __9

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

Example Action: Press the Enter key to define the box element in the record layout.

The following display appears.

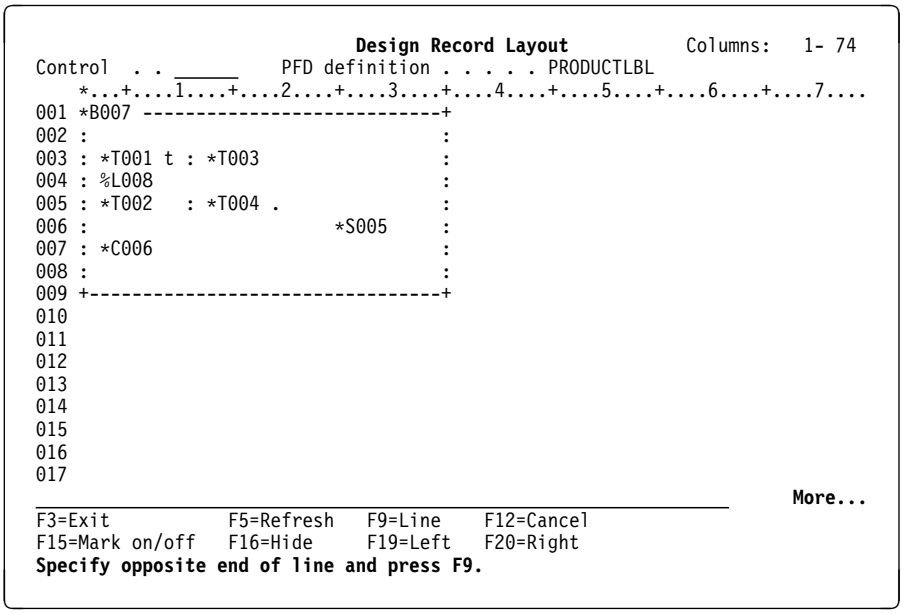
```
                              Design Record Layout          Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001 *B007 ----------------------------+
002 :                                  :
003 : *T001 t : *T003                  :
004 :                                  :
005 : *T002   : *T004 .                :
006 :                          *S005   :
007 : *C006                            :
008 :                                  :
009 +----------------------------------+
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

Specifying a Line Element

You can draw a line in a record layout.

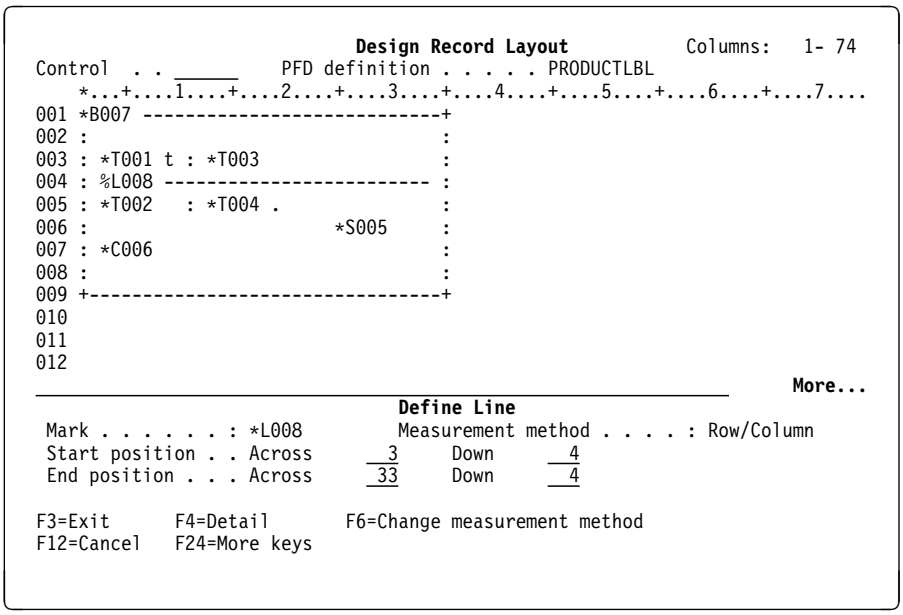
Example Action: Move the cursor to the position (Across : 3, Down : 4) to start the line and press the F9 key.

An element mark %L008 appears, and a message prompts you to press the F9 key.



Example Action: Move the cursor to the end position (Across : 33, Down : 4) of the line and press the F9 key.

A line is drawn in the image area, and the key entry area appears on the lower part of the display.


Design Record Layout Columns: 1- 74
Control . . _____ PFD definition . . . . . PRODUCTLBL
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001 *B007 ----------
002 :
003 : *T001 t : *T003
004 : %L008 ----------
005 : *T002 : *T004 .
006 : *S005
007 : *C006
008 :
009 +----------
010
011
012
More...
Define Line
Mark . . . . . : *L008 Measurement method . . . . : Row/Column
Start position . . Across 3 Down 4
End position . . . Across 33 Down 4
F3=Exit F4=Detail F6=Change measurement method
F12=Cancel F24=More keys

Example Action: Press the Enter key.

The line is defined.

Example Action: Define another line element from (Across : 3, Down : 6) to (Across : 15, Down : 6) in the same way.

The following display appears.

```
                              Design Record Layout          Columns:   1- 74
Control  . . _____     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001 *B007 ----------------------------+
002 :                                 :
003 : *T001 t : *T003                 :
004 : *L008 ------------------------- :
005 : *T002   : *T004 .               :
006 : *L009 -------         *S005     :
007 : *C006                           :
008 :                                 :
009 +---------------------------------+
010
011
012
013
014
015
016
017
                                                                      More...
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

Exiting from Design Record Layout

Example Action: When you have specified all elements in the record layout, press the F3 key to exit from this display.

The Design Page Layout display appears.

Designing a Page Layout

On the Design Page Layout display, you can define how the record layout is printed on a page, and how other elements such as text and lines, are printed on the page.

Other than the sample in this chapter, you can also define reserved variable data such as date, time, page number, and summary data of field values in a database file. See Chapter 10, “Work with PFD Definitions” on page 139 for more information.

```
                          Design Page Layout           Columns:   1- 74
Control  . . ______    PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                      More...
F3=Exit        F6=Text           F9=Line          F10=Box
F11=Bar code   F21=Element edit  F22=Block edit   F24=More keys
```

Initially, nothing is defined in the page layout shown above. Place the record layout and define fixed data in the page interactively. You can define fixed data in the same way you did while designing the record layout.

You can place the record layout in the following steps.

Example Action: Move the cursor to the position (Across : 5, Down : 5) you want to place the record layout and press the F13 key.

```
                          Design Page Layout           Columns:   1- 74
Control  . . ______    PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005     %
006
007
008
009
010
011
012
013
014
015
016
017
                                                                      More...
F3=Exit      F6=Place graphics   F9=Place page segment
F11=Place record layout          F12=Cancel   F24=More keys
Press F6, F9 or F11 for graphics, page segment or record layout.
```

A percent sign (%) displays to indicate the cursor position. (A mark is not displayed because the element type has not yet been specified.)

The function key area changes and `F11=Place record layout` is displayed.

Example Action: Press the F11 key to place a record.

```
                              Design Page Layout          Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005     %R001-001
006
007
008
009
010
011
012
                                                                        More...
                                Place Record Layout
 Mark . . . . . : *R001          Measurement method . . . . : Row/Column
 Position . . . . . Across      5     Down      5


F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

A mark %R001-001 is displayed at the cursor position in the image area and the key entry area appears at the bottom portion of the display.

The mark for the record layout has a trailing sequence number. This sequence number will be incremented by 1 such as *R001-002, *R001-003, and so on, when the record layout is repeated.

Example Action: Move the cursor to the key entry area and press the F4 key.

The Place Record Layout Detail display appears.

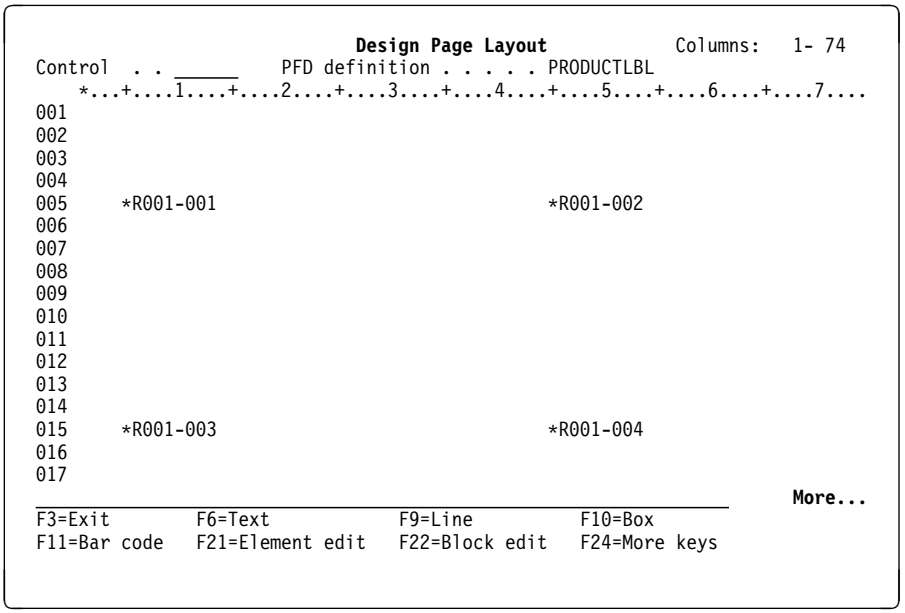
```
                          Place Record Layout Detail

Mark:   *R001             Measurement method:   Row/Column

Type choices, press Enter.

  Position:
    Across . . . . . .  5          1-999
    Down . . . . . .  5            1-999
  Element  . . . . . .  ____       Name
  Direction  . . . . . .  1        1=Across, 2=Down
  Repetition:
    Across . . . . . .  2          1-99
    Down . . . . . .  4            1-99
  Distance:
    Across . . . . . .  40         1-999
    Down . . . . . .  10           1-999




                                                                       Bottom
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

You can type the desired choices in the detail list.

Example Actions:

1. Type the value of the repetition (Across : 2, Down : 4) of the record layout to be printed.
2. Type the value of the distance (Across : 40, Down : 10) of the record layouts to be printed.
3. Press the Enter key.

The Design Page Layout display appears.



To print a title on the page, do the following.

Example Actions:

1. Move the cursor to the position (Across : 33, Down : 2) to define text and press the F6 key. The key entry area appears.
2. Type `Product Delivery Labels` in the *Text data* prompt.
3. Press the Enter key.

The following display appears.

```
                          Design Page Layout          Columns:   1- 74
Control  . . _____     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                *T002 t Delivery Labels
003
004
005     *R001-001                                  *R001-002
006
007
008
009
010
011
012
013
014
015     *R001-003                                  *R001-004
016
017                                                                  More...
_____________________________________________________________________________
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

Example Action: Press the F3 key to exit from the Design Page Layout display.

Since you selected *Define printout specifications* on the Create PFD Definition display, the Define Printout Specifications display appears.

Defining Printout Specifications

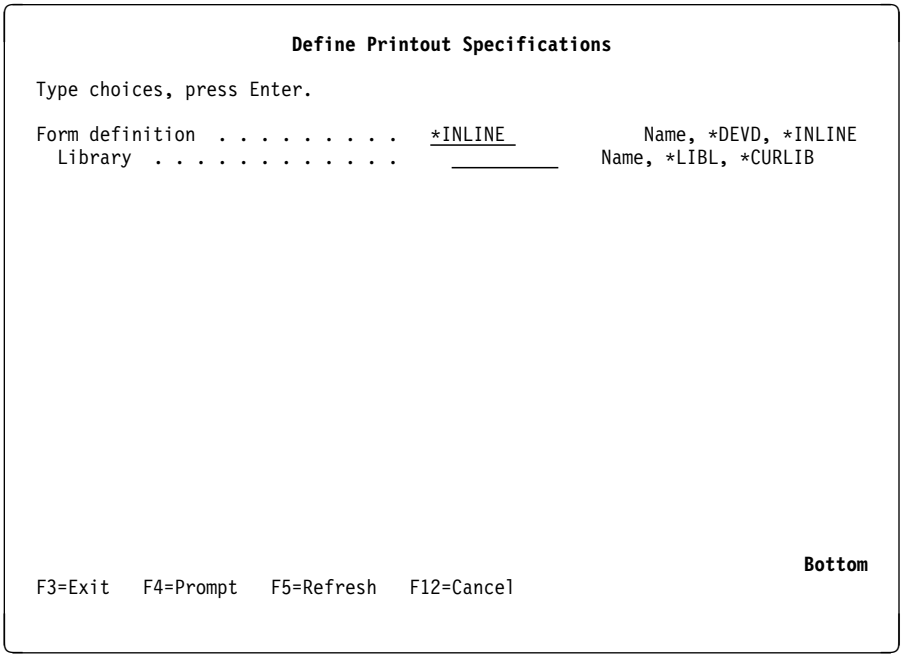
```
                      Define Printout Specifications

Type choices, press Enter.

Copies . . . . . .  2__            1-255
Print fidelity . . . . . .  *CONTENT      *CONTENT, *ABSOLUTE
Print quality  . . . . . .  *STD__        *STD, *DRAFT, *NLQ
Duplex . . . . . .  N              Y=Yes, N=No
Omit back side page layout . . . .  N              Y=Yes, N=No
Form type  . . . . . .  *STD_____  Character value, *STD
Source drawer  . . . . . .  1__           1-255, *E1, *CUT
Front side overlay:
  Overlay  . . . . . .  *NONE___       Name, *NONE, F4 for list
    Library  . . . . . .  *LIBL_____   Name, *LIBL, *CURLIB
  Offset across  . . . . . .  .00__    0.00-22.75
  Offset down  . . . . . .  .00__      0.00-22.75
Back side overlay:
  Overlay  . . . . . .  *NONE___       Name, *NONE, F4 for list
    Library  . . . . . .  *LIBL_____   Name, *LIBL, *CURLIB
  Offset across  . . . . . .  .00__    0.00-22.75
  Offset down  . . . . . .  .00__      0.00-22.75
                                                              More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

You can specify information such as how many copies are to be printed, which form type to use for printing, a different form definition, the overlay for each side of the paper, and so on.

Example Actions:

1. Type 2 in the *Copies* prompt.
2. Press the Page Down key.

A second Define Printout Specifications display appears.


Define Printout Specifications
Type choices, press Enter.
Form definition . . . . . *INLINE Name, *DEVD, *INLINE
Library . . . . . Name, *LIBL, *CURLIB
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel

Specify that the Print Format Utility should create an inline form definition.

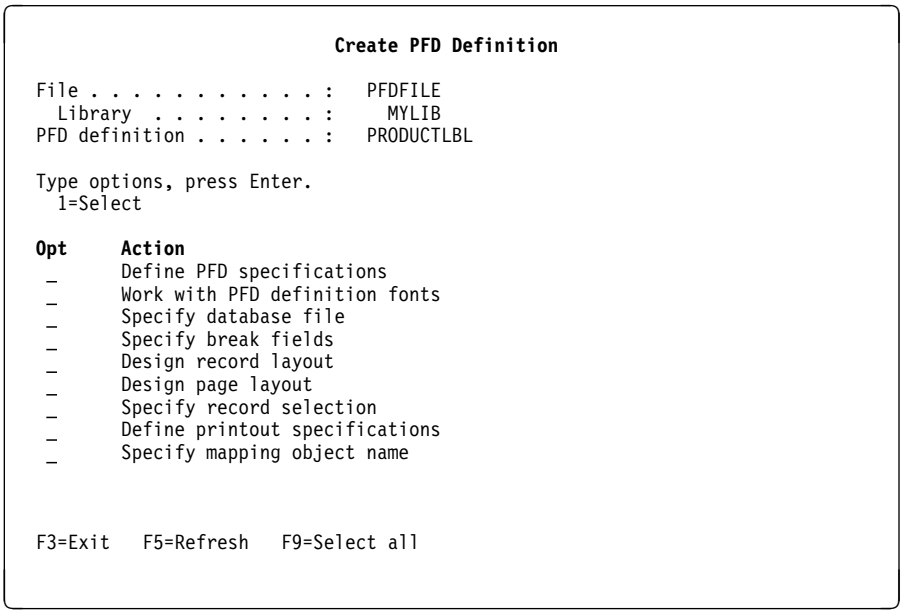
Example Actions:

1. Type `*INLINE` in the *Form definition* prompt.
2. Press Enter key.

The Create PFD Definition display appears.

Exiting from Defining the PFD Definition

Now you can save the PFD definition and exit from defining a PFD definition.


Create PFD Definition
File . . . . . : PFDFILE
Library . . . . . : MYLIB
PFD definition . . . . . : PRODUCTLBL
Type options, press Enter.
1=Select
Opt Action
Define PFD specifications
Work with PFD definition fonts
Specify database file
Specify break fields
Design record layout
Design page layout
Specify record selection
Define printout specifications
Specify mapping object name
F3=Exit F5=Refresh F9=Select all

Example Action: Press the F3 key to exit from creating a PFD definition.

```
                          Exit PFD Definition

Type choices, press Enter.

  Option  . . . . . . . . . . . . .   1      1=Save and exit
                                             2=Exit without saving
                                             3=Resume PFU session

  Return to PFD definition list . .   Y      Y=Yes, N=No

F12=Cancel
```

Example Actions:

1. Type 1 in the *Option* prompt.
2. Press the Enter key.

The Save PFD Definition display appears.

```
                          Save PFD Definition

Type choices, press Enter.

  PFD definition . . . . . . . . . .   PRODUCTLBL     Name, F4 for list
  File . . . . . . . . . . . . . . .   PFDFILE       Name, F4 for list
    Library  . . . . . . . . . . . .     MYLIB       Name, *CURLIB
  Text 'description' . . . . . . . .   PFD exercise
_____________
  Delete removed elements  . . . . . .   N           Y=Yes, N=No

F4=Prompt   F5=Refresh   F12=Cancel
```

Example Action: Type `PFD exercise` in the *Text 'description'* prompt, and press the Enter key.

The following display appears.

```
                        Work with PFD Definitions

File  . . . . . .   PFDFILE     Name, F4 for list
  Library . . . . . .   MYLIB     Name, *LIBL, *CURLIB
PFD definition  . . . . .   *ALL      Name, generic*, *ALL
Position to . . . . . .   _____      Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   6=Print PFD definition   7=Rename
  9=Print database file

     PFD
Opt  Definition  Text                                                Changed
 9   PRODUCTLBL
 _   PRODUCTLBL  PFD exercise                                        12/13/90



                                                                       Bottom
Parameters or command
===> ____________________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel

PFD definition PRODUCTLBL saved in file PFDFILE successfully.
```

From this display, you can print a database file.

Step 4 - Printing a Database File

You can print a database file in the following procedures.

Example Actions:

1. Type 9 (Print database file) in the *Opt* column beside PRODUCTLBL.
2. Press the Enter key.

The Print Database File Member display appears:

```
                        Print Database File Member

  File . . . . . . . . . . . . . :   PFDFILE
    Library  . . . . . . . . . . :     MYLIB
  PFD definition . . . . . . . . :   PRODUCTLBL

Type choices, press Enter.

  Database file  . . . . . . . . .   *PFD         Name, *PFD, F4 for list
    Library  . . . . . . . . . . .     *LIBL      Name, *LIBL, *CURLIB
  Member . . . . . . . . . . . . .   *FIRST       Name, *FIRST, F4 for list

  Include grid . . . . . . . . . .   N             Y=Yes, N=No
  Record selection . . . . . . . .   Y             Y=Yes, N=No
  Ending page  . . . . . . . . . .   *END          1-9999, *END
  Source Drawer  . . . . . . . . .   *PFD          1-255, *PFD, *E1
  Output bin . . . . . . . . . . .   *DEVD         1-65535, *DEVD
  Copies . . . . . . . . . . . . .   *PFD          1-255, *PFD
  Output queue . . . . . . . . . .   *JOB          Name, *JOB
    Library  . . . . . . . . . . .                 Name, *LIBL, *CURLIB

                                                                    More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

Example Action: Press the Enter key to use the predefined values.

The database file member is printed.

Note: A spooled file is created in an output queue by the print operation, and it is printed on the printer after the print writer sends it to a printer.

Step 5 - Ending the Print Format Utility

When the database file is printed, the following display appears:

```
                        Work with PFD Definitions

File  . . . . . .  PFDFILE     Name, F4 for list
  Library . . . . .  MYLIB     Name, *LIBL, *CURLIB
PFD definition  . . . .  *ALL  Name, generic*, *ALL
Position to . . . . . .        Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   6=Print PFD definition   7=Rename
  9=Print database file

     PFD
Opt  Definition  Text                                              Changed
 _   PRODUCTLBL
 _   PRODUCTLBL  PFD exercise                                      12/13/90



                                                                     Bottom
Parameters or command
===>
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
Member QAFCPFDDTA in database file QAFCPFDDTA printed.
```

Example Action: Press the F3 key to end the Work with PFD Definitions display.

The Work with PFD Definition Files display appears.

```
                     Work with PFD Definition Files

Library . . . . . .  MYLIB     Name, *USRLIBL, *LIBL, *CURLIB...
File  . . . . . .  *ALL        Name, generic*, *ALL
Position to . . . . . .        Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   7=Rename   8=Display description
  12=Work with PFD definitions

Opt  File        Library     Text                          Changed
__   PFDFILE     MYLIB
__   PFDFILE     MYLIB       PFD file for exercise         12/13/90




                                                                     Bottom
Parameters or command
===>
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
PFD definition file PFDFILE created in library MYLIB.
```

Example Action: Press the F3 key.

The IBM Advanced Function Printing Utilities for AS/400 menu appears.

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> ____________________________________________________________________

F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F16=System main menu
```

Step 6 - Printing the AFP Utilities tutorial

A tutorial or a part of the tutorial which explains IBM Advanced Function Printing Utilities for AS/400 functions and gives additional examples can be printed by using option 14 on the IBM Advanced Function Printing Utilities for AS/400 menu.

Example Actions

1. Type 14 (Print AFP Utilities tutorial) on the Selection or command line.
2. Press the Enter key.

The Print Database File Member display appears:

```
                          Print Database File Member

Type choices, press Enter.

  File . . . . . .   QAFCTUTPFD     Name, F4 for list
    Library  . . . .   QGPL         Name, *LIBL, *CURLIB
  PFD definition . .   TUTORIAL     Name, *FIRST, F4 for list

  Database file  . .   *PFD         Name, *PFD, F4 for list
    Library  . . . .   *LIBL        Name, *LIBL, *CURLIB
  Member . . . . . .   *FIRST       Name, *FIRST, F4 for list

  Include grid . . .   N            Y=Yes, N=No
  Record selection .   Y            Y=Yes, N=No
  Ending page  . . .   *END         1-9999, *END
  Source Drawer  . .   *PFD         1-255, *PFD, *E1
  Output bin . . . .   *DEVD        1-65535, *DEVD
  Copies . . . . . .   *PFD         1-255, *PFD
  Output queue . . .   *JOB         Name, *JOB
    Library  . . . .   __________   Name, *LIBL, *CURLIB

                                                                    More...
F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel
```

To print only the tutorial overview.

Example Actions

1. Press the Tab key twice to position the cursor to the PFD definition prompt.
2. Press the F4 key.

The Select PFD Definition display appears:

```
                          Select PFD Definition

File . . . . . :   QAFCTUTPFD
  Library  . . . . . :     QGPL

Position to  . . . . . .   _________              Starting characters

Type option, press Enter.
  1=Select

        PFD
Opt     Definition     Text
 _       TUTORIAL       Entire tutorial
 _       TUTOR10        Overview - Topics covered in the tutorial
 _       TUTOR20        Create Source Overlay file and Source Overlay
 _       TUTOR25        Create Source Overlay
 _       TUTOR30        Create the database file and add data with DFU
 _       TUTOR32        Create the database file - no data
 _       TUTOR40        Add data to the database file with DFU
 _       TUTOR50        Create PFD File, Create and Change a PFD
 _       TUTOR55        Create a PFD Definition
                                                                    More...
F5=Refresh   F12=Cancel
```

Example Actions

1. Press the Tab key to position the cursor to PFD definition TUTOR10.
2. Type 1, and press Enter.

The Print Database File Member display appears again.

Example Action

1. Press the Enter key again to print the tutorial overview.

Note: A spooled file is created in an output queue by the print operation, and it is printed on the printer after the print writer sends it to a printer.

The IBM Advanced Function Printing Utilities for AS/400 menu appears.

Example Action: Press the F3 key to return to the AS/400 Main Menu.

Chapter 9. Starting and Ending the Print Format Utility

This chapter provides additional information for starting and ending the Print Format Utility.

Starting the Print Format Utility

You can start the Print Format Utility by typing either of the following commands on the AS/400 command line and pressing Enter.

1. **STRAFPU** (Start IBM Advanced Function Printing Utilities for AS/400)
2. **STRPFU** (Start Print Format Utility)

If you start by typing **STRAFPU**, the following menu appears:

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> ____________________________________________________________________

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F16=System main menu
(C) COPYRIGHT IBM CORP. 1991, 1993.
```

You can start the following four Print Format Utility functions from this menu:

Option	Function
11	Work with PFD definitions
12	Work with PFD definition files
13	Print database file member
14	Print AFP Utilities tutorial

The following describe the options available on the above menu. To select one of the following, type the number of the option on the command line, and press Enter.

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Option 11 (Work with PFD definitions)

Work with PFD definitions allows you to do the following:

- Create a PFD definition. You can start this option by specifying the name of a PFD definition name with the option number.
- Change a PFD definition.
- Copy a PFD definition.
- Delete a PFD definition.
- Print a PFD definition.
- Rename a PFD definition.
- Print a database file.

See Chapter 10, “Work with PFD Definitions” on page 139 for more information.

Option 12 (Work with PFD definition files)

Work with PFD definition files allows you to do the following:

- Create a PFD definition file by specifying the name of an AS/400 library, a PFD definition file name, and the option number.
- Change the description of a PFD definition file.
- Copy a PFD definition file.
- Delete a PFD definition file.
- Rename a PFD definition file.
- Display the description of a PFD definition file.
- Call the Work with PFD Definitions display.

See Chapter 11, “Work with PFD Definition Files” on page 195 for more information.

Option 13 (Print Database File Member)

Print database file member allows you to create a printing request interactively to the system by specifying a PFD definition, a database file, an output queue, and other information to print a database file member. See Chapter 12, “Print Database File Member” on page 207 for more information.

If you start the Print Format Utility by using the **STRPFU** command, the Work with PFD Definitions display on page 139 appears. You can skip the Work with PFD Definition display by specifying a PFD definition name and an option number with the command.

See Chapter 21, “AFP Utilities for AS/400 Commands” on page 355 for more information.

Option 14 (Print AFP Utilities tutorial)

Print AFP Utilities tutorial allows you to print the full tutorial or part of the tutorial. The Print Database File Member display appears. The values provided can be changed to specify the number of copies or to direct the output to a different output queue. To print the entire tutorial, press the Enter key. To print only part of the tutorial, place the cursor at the PFD definition prompt and press F4. The select PFD definition display will appear where you can select the section of the tutorial you want to print. The sections from which you can choose are:

- Entire tutorial
- Overview - Topics covered in the tutorial
- Create Source Overlay file and Source Overlay

- Create Source Overlay
- Create the database file and add data with DFU
- Create the database file - no data
- Add data to the database file with DFU
- Create PFD File, Create and Change a PFD
- Create a PFD Definition
- Change a PFD Definition
- Print PFD Data
- Copy a PFD Definition
- Convert a page segment to a physical file member
- Convert a physical file member to a page segment

Ending the Print Format Utility

When you complete the work with the Print Format Utility, press the F3 key repeatedly. If you start the Print Format Utility by using the STRAFPU command, the menu panel display on page 135 appears.

If you start the Print Format Utility by using the STRPFU command, the menu panel display on page 139 appears.

To end the Print Format Utility, press the F3 key one more time. Then the screen returns to the AS/400 display from which you started the Print Format Utility.

Chapter 10. Work with PFD Definitions

This chapter provides additional information for working with PFD definitions.

You can select the following options from this display.

- Creating PFD definition
- Changing PFD definition
- Copying PFD definition
- Deleting PFD definition
- Printing PFD definition
- Renaming PFD definition
- Printing database file

Select 11 (Work with PFD definitions) on the AFP utilities menu on 135, and press the Enter key. The following display appears:

```
                          Work with PFD Definitions

File  . . . . . .  PFUFILE     Name, F4 for list
  Library . . . . . .  PFULIB    Name, *LIBL, *CURLIB
PFD definition  . . . . .  *ALL      Name, generic*, *ALL
Position to . . . . . .  _____     Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   6=Print PFD definition   7=Rename
  9=Print database file

     PFD
Opt  Definition  Text                                              Changed
 _   _________
 _   PFD1        Sample PFD definition                             12/13/90
 _   PFD2        Sample PFD definition                             12/13/90
 _   PFD3        Sample PFD definition                             12/13/90
 _   PFD4        Sample PFD definition                             12/13/90
                                                                     Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

When the definition is the first PFD definition to be created, no definition list appears on the display.

Note: Before you create a PFD definition, you need to create a PFD definition file by using option 1 (Create) on the Work with PFD Definition Files display.

The following tables explain the Work with PFD Definitions display.

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Prompts

Prompt	Description
File	Specifies the PFD definition file that contains the PFD definitions you want to list and work with. Press F4 to go to a selection list of PFD definition files in the specified library.
Library	Specifies the name of the library that contains the PFD definition file containing the PFD definitions you want to work with. The possible library values in this field are: ***LIBL** To specify the file containing the PFD definitions you want to work with is in one of the libraries in the library list. ***CURLIB** To specify that the file containing the PFD definitions you want to work with is the current library. If no library is specified as the current library for the job, library QGPL is used. **library-name** Specifies the name of the library that contains the file containing the PFD definitions you want to work with.
PFD definition	Specifies that you want to work with all the PFD definitions in the file or a subset of the PFD definitions in the file. Choose from the following: **PFD definition name** Specifies a PFD definition name for a display with only that PFD definition name in the list. **generic name** Specifies a partial name of the PFD definition name qualified by an asterisk (*) to display a specific subset of PFD definitions. The generic name is the following format: **ABC*** Displays a list of all PFD definitions that begin with the characters ABC. For example, ABC, ABCD, and ABCTEST. ***ALL** To display all the PFD definitions in the specified file.
Position to	This prompt is used for quick repositioning of the list, not for creating a subset of the list. Choose one of the following: ***TOP** To go to the top of the list. ***BOT** To go to the bottom of the list. **name or partial name** Specifies the name or partial name you want to go to in the list. The list is positioned to the first name beginning with the string specified.

Options

Option	Description
1=Create	Creates a PFD definition. You can create a new PFD definition. Type 1 in the *Opt* column, and the name of the PFD definition you want to create in the first line in the list. See “1=Create PFD Definitions” on page 143 for more information. **Note:** Before you create a PFD definition, you need to create a PFD definition file by selecting 1 (Create) on the Work with PFD Definition Files display.
2=Change	Changes a PFD definition. You can change a PFD definition and save it with either the same name or a new name. That is, you can create a new PFD definition based on an existing PFD definition using this option. It is also possible to save the PFD definition in a different PFD definition file or in a different library. Type 2 in the *Opt* column beside the name of the PFD definition you want to change. See “2=Change PFD Definition” on page 190 for more information.
3=Copy	Copies a PFD definition to a new PFD definition. You can copy a PFD definition to another file, another library, or both. Type 3 in the *Opt* column beside the name of the PFD definition you want to copy. See “3=Copy PFD Definition” on page 191 for more information.
4=Delete	Deletes a PFD definition from the PFD definition file. You can confirm the choices on the next display before deleting the PFD definitions. Type 4 in the *Opt* column beside the name of the PFD definition you want to delete. See “4=Delete PFD Definition” on page 193 for more information.
6=Print	Prints a PFD definition. Specify 6 in the *Opt* column beside the name of the PFD definition you want to print. See “6=Print PFD Definition” on page 194 for more information.
7=Rename	Rename a PFD definition. Specify 7 in the *Opt* column beside the name of the PFD definition for which you want to change the name. See “7=Rename PFD Definition” on page 194 for more information.
9=Print database file	Prints a database file member. You can print a database file member based on the PFD definition. Type 9 in the *Opt* column beside the name of the PFD definition on which to base the printing of a database file member. See “9=Print Database File” on page 194 for more information.

Columns

Column	Description
Opt	Specifies the number of the task in the *Opt* prompt beside the PFD definition you want to perform the task with. You can type the same option next to more than one PFD definition at a time, and you can also type different options next to different PFD definitions at the same time.
PFD definition	Shows a list of all the PFD definitions in the specified file that meet the subset criteria. You can use the top position in the list to type a PFD definition you want to create or select another option.
Text	The text description of the PFD definition is shown.
Changed	The date of the last change to the PFD definition is shown.

Showing a PFD Definition List

The PFD definitions can be listed on the lower part of the display by specifying the *Library* prompt and *File* prompt. When you want to change the content of the list, specify the name of a file and library, and press the Enter key. You can page up or down the list on the display by specifying the starting characters in the *Position to* prompt.

Note: When you specify any of the *PFD Definition* prompt, *File* prompt, and *Library* prompt, you can **not** specify the *Opt* column.

Selecting a PFD Definition from a List

The list on the display contains the names of all or specified subset of the PFD definitions that exist in the PFD definition file indicated by the *File* prompt. The text that describes the PFD definitions and the date of the last change to the PFD definition are also shown in the list.

When a list is shown, a one-word indicator always appears below and to the right of the list to tell you where you are in the list. **More...** means that there are more items after the item currently shown. **Bottom** means that you are at the end of the list.

Use the Page or Roll keys to move forward or backward through the list.

If you are creating a PFD definition, you can check this list to see what names are already used before you choose a new name. You can create a PFD definition by typing 1 and a PFD definition name in the first list position, and you can select other PFD definitions from the list using any of the options except 1 (Create).

Therefore, you can select one or more names by doing one or both of the following:

- In the *Opt* column beside the PFD definition name in the list that you want to use, type the number of the option (task) to be used.
- In only the first (top) position of the list, type an option number (for the task), and a PFD definition name in the *Opt* and *PFD Definition* columns respectively.

Note: You can create a PFD definition by specifying the new PFD definition name on this display, but you can not create a PFD definition file from this display. Use the Work with PFD Definition Files display to create a PFD definition file. If you do

not have a library for the PFD definition file, use the Create Library (**CRTLIB**) command to create a library.

1=Create PFD Definitions

To create a PFD definition, do the following on the display on page 139.

1. Type 1 in the *Opt* column in the first line of the list.
2. Type the PFD definition name in the *PFD definition* column in the first line of the list.
3. Press the Enter key.

The following display appears.

```
                          Create PFD Definition

File . . . . . . . . . . . :   PFUFILE
  Library  . . . . . . . . :     PFULIB
PFD definition . . . . . . :   PFDNEW

Type options, press Enter.
  1=Select

Opt     Action
 _      Define PFD specifications
 _      Work with PFD definition fonts
 1      Specify database file
 _      Specify break fields
 1      Design record layout
 1      Design page layout
 _      Specify record selection
 _      Define printout specifications
 _      Specify mapping object name


F3=Exit   F5=Refresh   F9=Select all   F12=Cancel
```

From the Create PFD Definition display, you can select one or more of the following actions to define a PFD definition.

- Define PFD specifications
- Work with PFD definition fonts
- Specify database file
- Specify break fields
- Design record layout
- Design page layout
- Specify record selection
- Define printout specifications
- Specify mapping object name

The following table explains each field of the Create PFD Definition display.

Field Name	Description
File	Shows the PFD definition file name which you specified.
Library	The name of the library in which the PFD definition file resides is shown.
PFD definition	The name of the PFD definition that you specified on the previous display is shown.
1=Select	Allows you to select one or more actions from the list.
Opt	Specify 1 (Select) in the *Opt* column beside the actions you want to select.

Field Name	Description
Action	You can select one, some, or all of the following actions for PFD definition. **Define PFD specifications** Allows you to define specifications of the printout format, such as characters per inch, lines per inch, size (width and length), and so on. **Work with PFD definition fonts** Allows you to change fonts you use to print. **Specify database file** Allows you to specify the database file to print. **Specify break fields** Allows you to select the fields which cause the page break. **Design record layout** Allows you to define where the fields of the record in the database file are placed in the record layout. The values in the specified fields are printed as text, page segments, graphics, or bar codes (variable data). It also allows you to place variable data such as job date, job time, page number, record number, database file name, library name, and member name (reserved variable data) in the record layout. It also allows you to define where the fixed data, such as text, bar codes, lines, boxes, page segments, and graphics are placed in the record layout. **Design page layout** Allows you to specify how to print a record repeatedly on a page. It also allows you to define where the variable data such as job date, job time, page number, record number, database file name, library name, and member name (reserved variable data) are placed on a page. It also allows you to print the variable data such as the field value of the first record in the group, the field value of the last record in the group, the total of the field values in the group, the average of the field values in the group, the maximum field value in the group, the minimum field value in the group, and the record counts of the group (**summary data**). It also allows you to define the fixed data, such as text, bar codes, lines, boxes, page segments, and graphics on a page. **Specify record selection** Allows you to select records based on the comparative condition that you specify, such as equal to, greater than, less than, and so on. **Define printout specifications** Allows you to define how the printout will be printed, such as: • Number of copies • Print quality • Source drawer • Form type • Form definition **Specify mapping object name** Allows you to specify the mapping between the database field value and the object name.

The selected options are performed one after another, and this display appears again when all operations are completed.

Specify 1 in the *Opt* column beside the action you want to select.

If you want to select all actions, press F9.

When you have completed all operations, press F3 to exit this display.

Define PFD Specifications

```
                        Define PFD Specifications

Type choices, press Enter.
  Printer type . . . . . .   *DEFAULT   *DEFAULT, 1 - 9999
  Characters per inch  . . .   10.00     5.00, 10.00, 12.00, 13.30, 15.00
                                         16.70, 18.00, 20.00
  Lines per inch . . . . . .   6.00      3.00, 4.00, 6.00, 7.50, 8.00, 9.00
                                         12.00
  Degree of rotation . . . . .   0       0, 90, 180, 270
  Page number  . . . . . .   N           Y=Yes, N=No
  DBCS SO/SI spacing . . . . .   Y       Y=Yes, N=No

                                                                      More...
F3=Exit   F5=Refresh   F12=Cancel
```

```
                        Define PFD Specifications

Type choices, press Enter.

  Unit of measure  . . . . . .   1       1=Inch, 2=Centimeter
  Data element . . . . . .   1           1=Inch, 2=Centimeter
    Measurement method . . . .   1       1=Row/Column, 2=Inch/Centimeter
  Size:
    Measurement method . . . .   1       1=Row/Column, 2=Inch/Centimeter
    Width  . . . . . .   80              1-999
    Height . . . . . .   60              1-999
  Offset:
    Measurement method . . . .   1       1=Row/Column, 2=Inch/Centimeter
    Across . . . . . .   0               0-999
    Down . . . . . .   0                 0-999
  Grid:
    Measurement method . . . .   1       1=Row/Column, 2=Inch/Centimeter
    Across . . . . . .   10              1-999
    Down . . . . . .   6                 1-999

                                                                      Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

The Define PFD Specifications display allows you to define PFD specifications, such as printer type, characters per inch, lines per inch, page size, and degree of rotation.

The following table explains each field of the Define PFD Specifications display.

Field Name	Description
Printer type	Specifies the printer type you are going to use. You can use 1, 2, 3, 4, 5, 6, 7 and 9 for printer type. These values previously supported, and will continue to support, the following printer types: **1** 4224, 4234, 4230 **2** 3812, 3816, 3930 **3** 3916, 4028 **4** 3820, 3825, 3827, 3829, 3835, 3900 **5** 3825, 3835, 3900 with the Advanced Function Image and Graphics feature **6** 3831 **7** 3935 **9** Not specified *DEFAULT also means Not specified. If *DEFAULT or 9 is specified, the **Confirm or Change Printer Attributes** screen is displayed to let you specify attributes for your printer type. If you know the attributes of your printer, but the printer is not supported by the current release of AFP Utilities for AS/400, use this screen to specify the attributes. For example, if you specify that your printer supports the Bar Code Object Contect Architecture (BCOCA), the printer data stream for bar codes will be created with BCOCA. However, if you specify that your printer does not support BCOCA, the bar codes will be created with the Presentation Text Object Content Architecture (PTOCA). PTOCA bar codes can be printed on any IPDS printer, but BCOCA bar codes print much faster. Any valid four-digit IBM IPDS printer type may also be specified. The field level help for this parameter shows a list of the printers supported for each release after Version 3, Release 2. As new printers are added and supported, their four-digit type number will be added to the list of printers supported. Because this may occur between releases, the list may not be complete. The specified value is used to: • Check if each element is supported by the printer. • Create the appropriate data stream for each printer. See Appendix A, “Printer Characteristics” on page 413 for the differences among printers.
Characters per inch	Specifies the number of characters per inch to print. A double-byte character is counted as two. You can choose 5.00, 10.00, 12.00, 13.30, 15.00, 16.70, 18.00 and 20.00 for the CPI. The default value is 10.00. This value is used to decide horizontal positions when the measurement method is Row/Column. This value is used to decide the horizontal positions of the text in the box element.

Field Name	Description
Lines per inch	Specifies the number of lines per inch to print. You can choose 3.00, 4.00, 6.00, 7.50, 8.00, 9.00 and 12.00 for the LPI. The default value is 6.00. This value is used to decide vertical positions when the measurement method is Row/Column. This value is used to decide the vertical positions of the text in the box element.
Unit of measure	Specifies the unit of measure to use: **1** Inch **2** Centimeter
Size	The page size is defined by the measurement method, the width, and the height.
Measurement method	Specifies the measurement method being used for the size. Possible values are: **1** Row/Column is used as the measurement method. **2** Either inch or centimeter is used as the measurement method depending on the value specified for the unit of measure. **Note:** To change both the measurement method and its following fields, change the value for the measurement method and press the Enter key **before** changing the following fields.
Width	Specifies the horizontal size of the page. The valid values depend on the measurement method specified. • 1 - 999 (in columns) • 0.10 - 22.75 (in inches) • 0.10 - 57.79 (in centimeters)
Height	Specifies the vertical size of the page. The valid values depend on the measurement method specified. • 1 - 999 (in rows) • 0.10 - 22.75 (in inches) • 0.10 - 57.79 (in centimeters)
Degree of rotation	Specifies the number of degrees to rotate the page in the clockwise direction. Select 0, 90, 180, or 270 degrees.
Page number	Specify whether or not page numbers are to be printed. Type one of the following: **Y (Yes)** Page numbers are printed. **N (No)** Page numbers are not printed.
DBCS SO/SI spacing	Specify Y or N to specify whether shift-out (SO) and shift-in (SI) characters are printed as blanks. **Y (Yes)** The shift-out and shift-in characters in the text data are printed as blank characters. **N (No)** The shift-out and shift-in characters in the text data are not printed. They occupy no space in the printout. **Note:** DBCS SO/SI spacing is valid only when the file is a DBCS capable file.
Offset	The offset is the distance between the page origin and the page layout, and is defined by the measurement method, the across (horizontal distance), and the down (vertical distance) positions.

Field Name	Description
Measurement method	Specifies the measurement method to be used for the offset. Possible values are: **1** Row/Column is used as the measurement method. **2** Either inch or centimeter is used as the measurement method depending on the value specified for the unit of measure. **Note:** To change both the measurement method and its following fields, change the value for the measurement method and press the Enter key **before** you change the following fields.
	The following fields specify the offset of the page layout.
Across	Specifies the value of the horizontal distance from the left edge of the logical page to the origin of the element to be created. The valid values are: • 0 to 999 (columns) • 0 to 22.75 (inches) • 0 to 57.79 (centimeters)
Down	Specifies the value of the vertical distance from the top edge of the logical page to the origin of the element to be created. The valid values are: • 0 to 999 (rows) • 0 to 22.75 (inches) • 0 to 57.79 (centimeters)
Grid	The grid is the combination of lines at regular intervals, and is defined by the measurement method, the across (horizontal interval), and the down (vertical interval).
Measurement method	Specifies the measurement method being used for the grid. Possible values are: **1** Row/Column is used as the measurement method. **2** Either inch or centimeter is used as the measurement method depending on the value specified for the unit of measure. **Note:** To change both the measurement method and its following fields, change the value for the measurement method and press the Enter key **before** changing the following fields.
	You can specify to print horizontal and vertical lines with the printout to help your designing work. The following fields specify the horizontal and vertical distances between grid lines.
Across	Specifies the value of the horizontal distance from the left edge of the logical page to the origin of the element to be created. The valid values are: • 1 - 999 (columns) • 0.10 - 22.75 (inches) • 0.10 - 57.79 (centimeters)
Down	Specifies the value of the vertical distance from the top edge of the logical page to the origin of the element to be created. The valid values are: • 1 - 999 (rows) • 0.10 - 22.75 (inches) • 0.10 - 57.79 (centimeters)

Change PFD Specifications

You can change the specifications of an existing PFD definition, or create a new PFD definition based on an existing PFD definition by changing it. Conflicts can occur between previously defined elements and changed specifications in the same PFD definition. This method is usually preferred in the following cases.

Note: The change operation is similar to the create operation. The only difference is that the previously entered parameters are already filled in for each field when the display appears. See "Define PFD Specifications" on page 146 for the description of each parameter.

- Making the page size smaller

  When you attempt to reduce the page size from the previously defined value, some elements are placed outside of the newly defined page. For example, elements placed close to the right edge of the previous page layout or record layout can be moved outside of the newly defined page. In this case, elements are deleted if their positions are moved out of the page.

  The Print Format Utility displays the confirmation display when such a situation occurs to let you enter the delete element operation or cancel the change PFD specifications operation. See "Confirm Delete of Elements" on page 152 for more information.

- Changing the unit of measure

  The Print Format Utility allows changing the unit of measure in the PFD specifications between inches and centimeters. The defined numbers in each element do not change. So some elements are placed outside of the page layout or the record layout when the number specified for the size exceeds the possible maximum value for the unit. In this case, the page size is made smaller as explained earlier.

- Changing the printer type

  The Print Format Utility allows changing the printer type in the PFD specifications. The Print Format Utility checks the compatibility between previously defined elements with the newly specified printer type. If the Print Format Utility finds any mismatched elements, the Print Format Utility displays the confirmation display and lists these elements on the display. You can then delete the elements or cancel changing the PFD specifications.

When the parameter values of the elements become incorrect by changing the parameter values of the PFD specifications, a warning message is displayed. You can adjust parameter values of those element as follows by pressing the Enter key, or you can change the parameter values of the PFD specifications to correct the errors.

The following table describes the cause of warning messages and the result.

Figure 21 (Page 1 of 2). The Cause of Message and Its Result

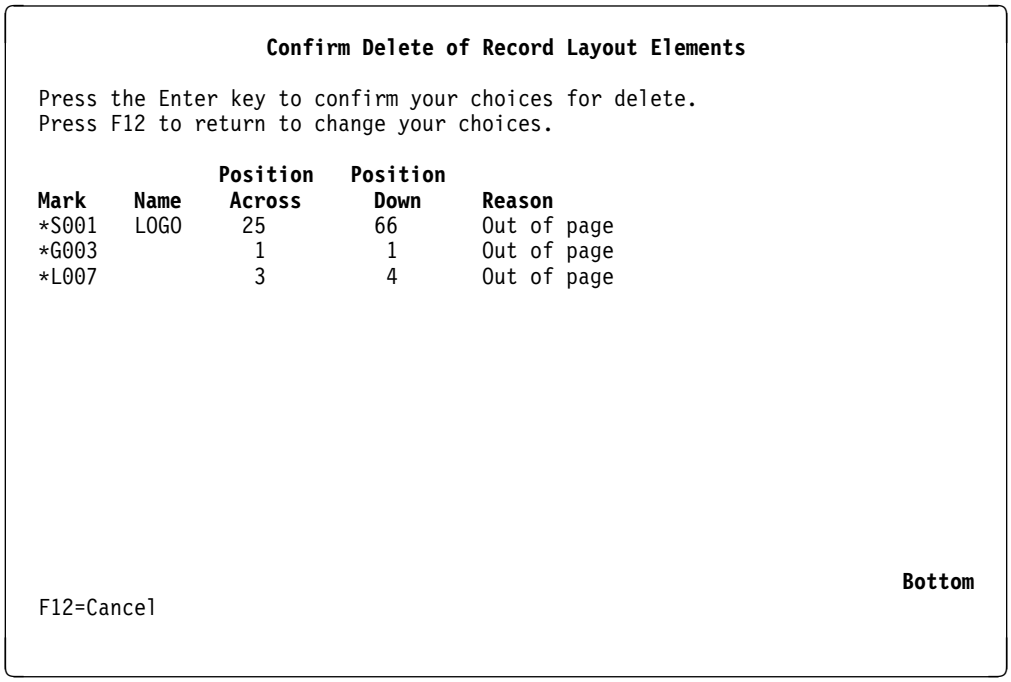
Cause	Result
The *Unit of measure* changed from `1=Inch` to `2=Centimeter` and the value for *Module width* gets too small. For example, 0.001 inches becomes 0.001 centimeters.	The correct minimum value `0.003` centimeter is used.

Figure 21 (Page 2 of 2). The Cause of Message and Its Result

Cause	Result
The *Unit of measure* changed from `2=Centimeter` to `1=Inch` and the value for *Module width* or *Line width* gets too large. For example, 2 centimeters becomes 2 inches.	The correct maximum value `1` inch is used.
The *Printer type* changed from `1=4224/4234/4230` or `9=Not specified` to another type and the value for *Color* becomes not correct. For example, `1=Blue` is not correct.	The value `*DEFAULT` is used.
The *Printer type* changed from another type to `1=4224/4234/4230`, or `2=3812/3816/3930`, or `3=3916/4028`, or `7=3935` and the value for *Format* becomes not correct. For example, `2=Vertical` is not correct.	The value `1=Horizontal` is used.
The *Printer type* changed from `1=4224/4234/4230`, or `2=3812/3816`, or `3=3916/4028`, or `7=3935`, or `9=Not specified` to another type and the value for *Overstrike* becomes not correct. For example, `X` is not correct.	Blank is used.
The *Printer type* changed from `1=4224/4234/4230`, or `2=3812/3816/3930`, or `3=3916/4028`, or `7=3935`, or `9=Not specified` to another type and the value for *Underline* becomes not correct. For example, `Y` is not correct.	The value `N` is used.
The *Printer type* changed from `1=4224/4234/4230`, or `2=3812/3816/3930`, or `3=3916/4028`, or `7=3935`, or `9=Not specified` to another type and the value for *Character size* becomes not correct. For example, `1` is not correct.	The value `*DEFAULT` is used.

Confirm Delete of Elements

Confirm Delete of Record Layout Elements

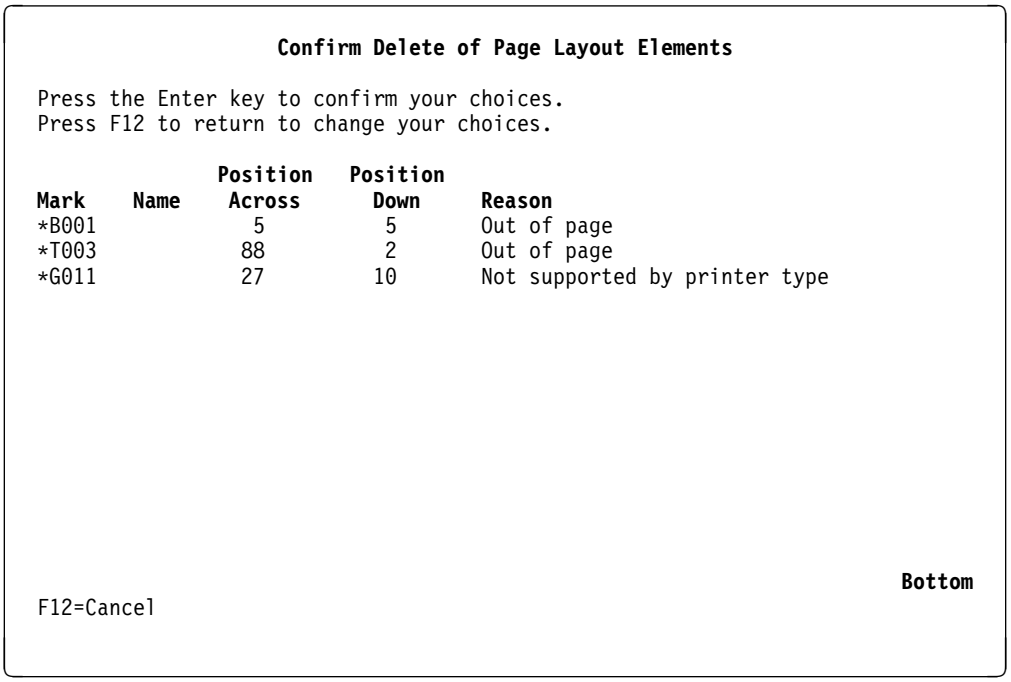

Confirm Delete of Record Layout Elements
Press the Enter key to confirm your choices for delete.
Press F12 to return to change your choices.
Mark Name Position Across Position Down Reason
*S001 LOGO 25 66 Out of page
*G003 1 1 Out of page
*L007 3 4 Out of page
Bottom
F12=Cancel

The Confirm Delete of Record Layout Elements display shows the list elements in the Record layout to be deleted due to change of the PFD specifications. The Reason column shows why the element is to be deleted.

You can delete these elements by pressing Enter. If you don't want to delete these elements, press F12 to cancel, and the Define PFD Specifications display appears.

Field Name	Description
Mark	Shows the element mark.
Name	Shows the element name that is assigned for each element on the Create or Change Element Detail display.
Position Across	Shows the horizontal position of the element.
Position Down	Shows the vertical position of the element.
Reason	Shows the reason the element is to be deleted.
	Out of page The position of the element is not within the size specified in the PFD specifications. • If the element is text, bar code, or page segment, its start position is outside. • If the element is line, box, or graphics, its bottom-right corner is outside.
	Not supported by printer type This type of element is not supported by the printer type specified with the PFD specifications. If the element is graphics, the printer does not support the function to print graphics.

Confirm Delete of Page Layout Elements


Confirm Delete of Page Layout Elements
Press the Enter key to confirm your choices.
Press F12 to return to change your choices.
Mark Name Position Across Position Down Reason
*B001 5 5 Out of page
*T003 88 2 Out of page
*G011 27 10 Not supported by printer type
Bottom
F12=Cancel

The Confirm Delete of Page Layout Elements display shows the list elements in the page layout to be deleted due to change of the PFD specifications. The Reason column shows why the element is to be deleted.

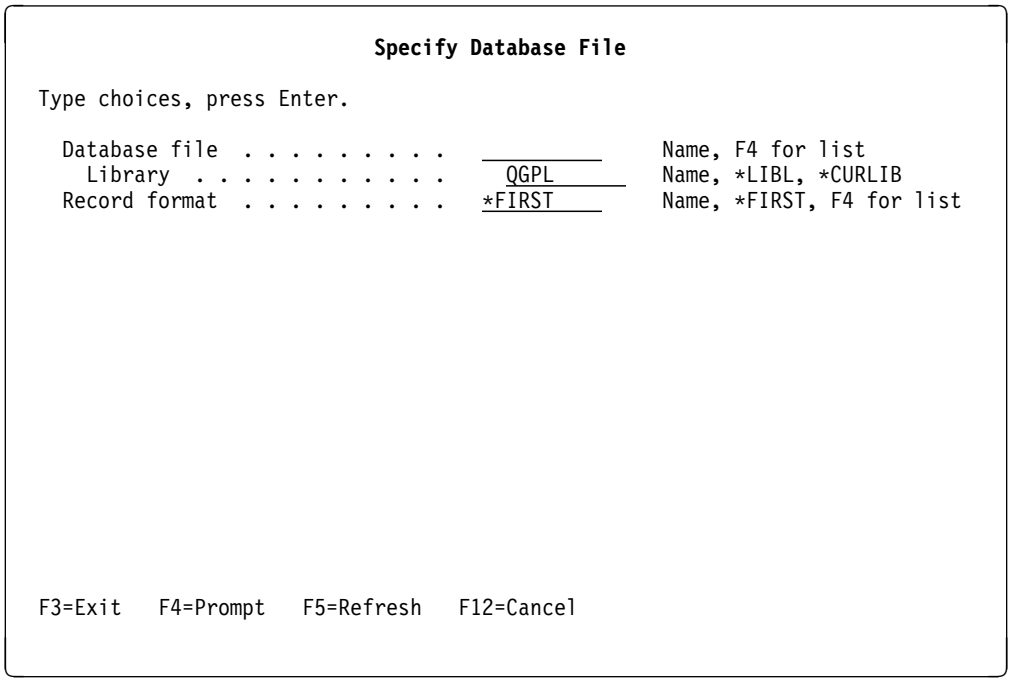
You can delete these elements by pressing Enter. If you don't want to delete these elements, press F12 to cancel. Then, the Define PFD Specifications display appears.

Column	Description
Mark	Shows the element mark.
Name	Shows the element name that is assigned for each element on the Create or Change Element Detail display.
Position Across	Shows the horizontal position of the element.
Position Down	Shows the vertical position of the element.
Reason	Shows the reason the element is to be deleted.
	Out of page The position of the element is not within the size specified in the PFD specifications • If the element is text, bar code, or page segment, its start position is outside. • If the element is line, box, or graphics, its bottom-right corner is outside. • If the element is record layout, its last repetition is outside.
	Not supported by printer type This type of element is not supported by the printer type specified with the PFD specifications. If the element is graphics, the printer does not support the function to print graphics.

Work with PFD Definition Fonts

For the work with fonts operations, see Chapter 14, “Work with Fonts” on page 289.

Specify Database File


Specify Database File
Type choices, press Enter.
Database file . . . . . Name, F4 for list
Library . . . . . QGPL Name, *LIBL, *CURLIB
Record format . . . . . *FIRST Name, *FIRST, F4 for list
F3=Exit F4=Prompt F5=Refresh F12=Cancel

On this display, specify the name of the database file to be printed and the name of the library that contains the database file. If the file has more than one record format, you must also specify the record format to be used.

The following table explains each field of the Specify Database File display.

Field Name	Description
Database file	Specifies the name of the database file to be printed. Use F4 to list the database file names in the library.
Library	Specifies the library name which contains the database file to be printed. *CURLIB or *LIBL can also be specified for library.
Record format	Specifies the record format name in the database file to be printed. *FIRST can also be specified. When the Enter key is pressed, *FIRST is replaced by the actual name of the format. Use F4 to list the record format names.

If it is not necessary to list the database file nor record format name, type the fields and press the Enter key. The display for another action appears.

To list record formats, move the cursor to the *Record format* prompt, press the F4 key, and go to the “Design Record Layout” on page 158.

To list database files, move the cursor to the *Database file* prompt and press the F4 key.

Select Database File

```
                          Select Database File

Library  . . . . . :   QGPL

Position to  . . . . . .   _________     Starting characters

Type option, press Enter.
  1=Select

Opt     File          Text
 _      QAAPFILE      Symbol set symbol definitions logical file
 _      QAAPFILE$     Symbol set small symbol definitions
 _      QAAPFILE#     Symbol set medium symbol definitions
 _      QAAPFILE@     Symbol set large symbol definitions
 _      QAFCGRPH      SAMPLE GDF
 1      QAFCPFDDTA    SAMPLE DATABASE FILE FOR PFU
 _      QAFCTUTDBF    SAMPLE DATABASE FILE FOR TUTORIAL
 _      QAFCTUTOR     AFPU TUTORIAL TEXT
 _      QAFCTUTPFD    AFP Utilities for AS/400 tutorial PFD file
 _      QAFCTUTXMP    Sample PFD File
 _      QAFCXMPAI2    SAMPLE DATABASE FILE (AIAG_B2)
                                                                  More...
F5=Refresh   F12=Cancel
```

On this display, the names and the descriptions of database files in the specified library are listed.

The following table explains each field of the Select Database File display.

Field Name	Description
Library	The name of the library in which the database files reside is shown.
Position to	This prompt is used for quick repositioning of the list, not for creating a subset of the list. Choose one of the following: ***TOP** To go to the top of the list. ***BOT** To go to the bottom of the list. **name or partial name** Specifies the name or partial name for positioning the list. The list is positioned to the first name beginning with the string specified.
1=Select	To select a database file from the list.
Opt	Specify 1 (Select) in the *Opt* column beside the database file to select.
File	Shows the names of the database files that reside in the library specified.
Text	Shows the description text of the database files.

Specify 1 in the *Opt* column beside the database file to select, and press the Enter key.

When you specify the database file (and the record format, if necessary), the display goes to “Design Record Layout” on page 158.

Select Record Format

```
                              Select Record Format

Database file  . . . . . :   QAFCPFDDTA
  Library  . . . . . . . :     QGPL

Type option, press Enter.
  1=Select

         Record
Opt      Format          Text
 1       PRODMASTER      Product master
 _       QUALITY         Quality data
 _       ROADMAP         Road map

                                                                      Bottom
F5=Refresh   F12=Cancel
```

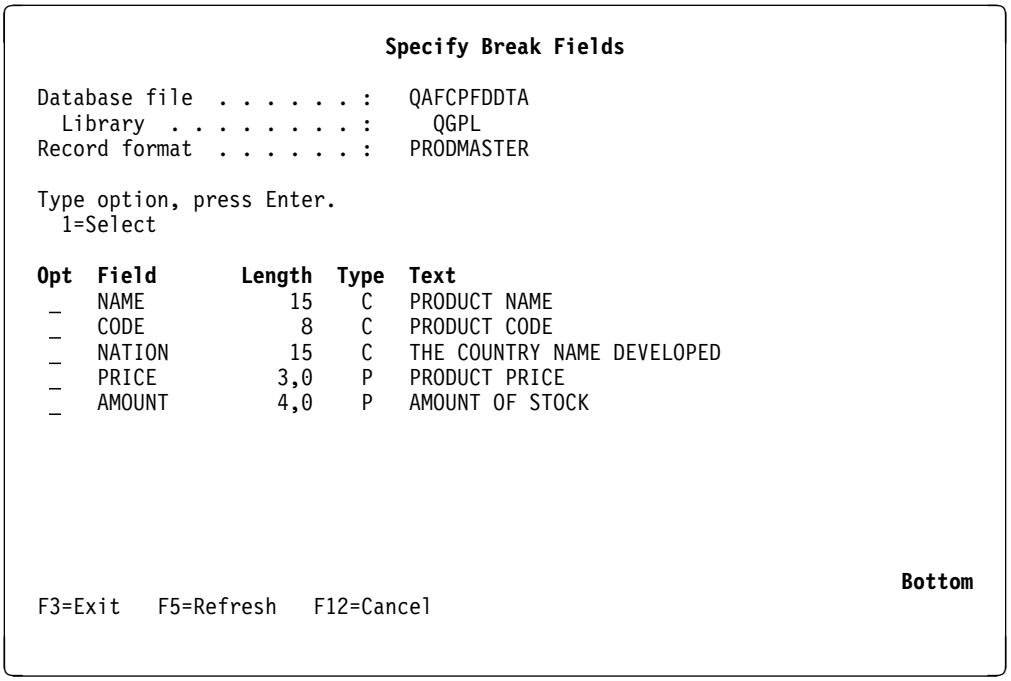
On this display, the name and the descriptions of record formats in the specified database file are listed.

The following table explains each field of the Select Record Format display.

Field Name	Description
Database file	Shows the name of the database file specified.
Library	Shows the name of the library in which the database file resides.
1=Select	Allows the selection of a record format from the list.
Opt	Specify 1 in the *Opt* column beside the record format you want to be selected.
Record Format	Shows the names of the record formats that are contained in the database file specified.
Text	The description text of the record formats that are contained in the database file specified.

Specify 1 in the *Opt* column beside the record format to be selected and press the Enter key. The Specify Database File display appears.

Specify Break Fields


Specify Break Fields
Database file . . . . . : QAFCPFDDTA
Library . . . . . : QGPL
Record format . . . . . : PRODMASTER
Type option, press Enter.
1=Select
Opt Field Length Type Text
_ NAME 15 C PRODUCT NAME
_ CODE 8 C PRODUCT CODE
_ NATION 15 C THE COUNTRY NAME DEVELOPED
_ PRICE 3,0 P PRODUCT PRICE
_ AMOUNT 4,0 P AMOUNT OF STOCK
Bottom
F3=Exit F5=Refresh F12=Cancel

This display allows you to specify which fields will cause a page break when you want start a new page according to the field value in the record even if the number of the records in the current page does not reach the page maximum. When the value of the record in the specified fields is not equal to that of the previous record, the Print Format Utility starts a new page before printing the record.

If two or more fields are specified as break fields, a page break occurs when the value of any of the specified fields for a record is not equal to that of the previous record. On this display, the names, the length, the type, and the descriptions of the fields in the specified database file are listed.

The following table explains each field of the Specify Break Fields display.

Field Name	Description
Database file	Shows the name of the database file specified on the Specify Database File display.
Library	Shows the name of the library in which the database file resides.
Record format	Shows the name of the record format specified on the Specify Database File display.
1=Select	Allows the selection of a field from the list.
Opt	Type 1 in the *Opt* column beside fields to be selected. The selected fields which cause the page break are called 'break fields'.
Field	Shows the names of the fields which are contained in the specified record format.
Length	Shows the lengths of the fields which are contained in the specified record format.

Field Name	Description	
Type	Shows the type of the fields which are contained in the specified record format.	
	P	Packed decimal data field.
	Z	Zoned decimal data field.
	B	Binary data field.
	F	Floating point data field.
	C	Character data field.
	D	DBCS data-capable field.
	VC	Variable character data field.
	VD	Variable DBCS data-capable field.
	L	Date data field.
	T	Time data field.
	S	Timestamp data field.
	G	DBCS-graphic data field.
	VG	Variable DBCS-graphic data field.
Text	Shows the description text of the fields.	

Type 1 in the *Opt* column beside the fields to be selected and press the Enter key.

Design Record Layout

In this section, records are distinguished depending on their definitions as follows:

- The record defined in the database file is referred to as a **database file record**.
- The record defined by the following process with the Print Format Utility based on the database file record will be simply referred to as a **record**.

```
                          Design Record Layout          Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

Initially, there is nothing defined in the record. From this display, you can define the record layout, that is, which fields of the database file member or which elements such as a line, a box, or a bar code will be printed at what location within the record which is defined for the PFD definition.

Data in Record Layout

There are three types of data that can be specified.

- Variable data
- Reserved variable data
- Fixed data

Variable Data: The field data from a database file (printed as text, bar codes, and referred to page segment names, or graphic names) is called **variable data**. You can specify not only their locations in the record layout, but also the fonts used for the text, if it is underlined or not, color, direction, bar code types, and so on.

Use one of the following to specify the name of a field whose value is printed:

the *Text data* prompt for text elements
the *Bar code data* prompt for bar code elements
the *Text data* prompt for box elements

Field names must be uppercase and enclosed with an ampersand (&) and a period (.). For example, specify a field name `PRODCT` as follows:

```
Text data . . . . &PRODCT.
```

Field names and constant data may be concatenated in a prompt. The following are all correct values:

```
ABC&PRODCT.XYZ
&PRODCT.&PRICE.
The &PRODCT. is the best product, and price is &PRICE. dollars.
```

The name of a field that contains an object name to be printed can be specified by using one of the following:

For page segments, the *Page segment* prompt
For graphics elements, the *Folder* prompt, *Document* prompt, *File* prompt, *Library* prompt, and *Member* prompt.

Field names must be uppercase and enclosed with an ampersand (&) and a period (.). Concatenating two or more variable fields and fixed data is allowed the same as for variable text data.

For more information about the mapping name, see “Specify Mapping Object Name” on page 185.

Note: Variable data can be specified only in the record layout.

Reserved Variable Data: The following data can be specified as text on a text element or on a box element in the record layout in the same manner as printing variable data from the database file. The following reserved variable names can be specified to print the variable data:

***DATE** The date the Print Database File Member job is requested.
***TIME** The time the Print Database File Member job is requested.
***PAGNBR** The number of the page on which the record is printed.
***RCDNBR** The record number within the database file.

***DBFIL** The name of the database file to be printed.
***DBLIB** The library name of the database file.
***DBMBR** The name of the member to be printed.

To select reserved variable names, press the F4 key on the Define Text Detail (or the Define Box Detail) display. The following display appears:

```
                        Select Field in Record Format

Database file  . . . . . :   MLTFMT
  Library  . . . . . . . :     SENDAI
Record Format  . . . . . :   MLTFMT

Type an option, press Enter.
  1=Select

Opt  Field       Length  Type  Text
 _   AREA             8    C    Area products developed
 _   PRICE            3    P    Price of the product
 _   PRODCT          12    C    Product name
 _   SIZE             4    P    Size

                                                                      Bottom
F5=Refresh   F11=Select reserved variable   F12=Cancel
```

Then press the F11 key. The following display appears:

```
                        Select Reserved Variable Name

Type option, press Enter.
  1=Select

Opt     Reserved variable name        Description
 _      *DATE                         Job date
 _      *TIME                         Job time
 _      *PAGNBR                       Page number
 _      *RCDNBR                       Record number
 _      *DBFIL                        Database file name
 _      *DBLIB                        Database library name
 _      *DBMBR                        Database member name

F5=Refresh   F11=Select field   F12=Cancel
```

Type 1 in the *Opt* column beside the reserved variable name to select and press the Enter key. The Define Text Detail (or the Define Box Detail) display appears with the selected reserved variable name enclosed with an ampersand (&) and a period (.).

The reserved variable name can be concatenated with variable data (field names) or fixed data as follows:

```
Page number: &*PAGNBR.
&*DATE.-&*TIME.
&COMPANY. is in the record number &*RCDNBR..
```

Note: Reserved variable data is printed in the following format:

- The job date is printed with the date format and the date separator defined on the job definition attribute.
- The job time is printed with the time separator defined on the job definition attribute.
- The page number is printed as eight-digit numeric data. The leading zeros are suppressed with blanks.
- The record number is printed as eight-digit numeric data. The leading zeros are suppressed with blanks.

Fixed Data: In addition to the data from a database file, data called **fixed data** can be defined when the PFD definition is created or changed.

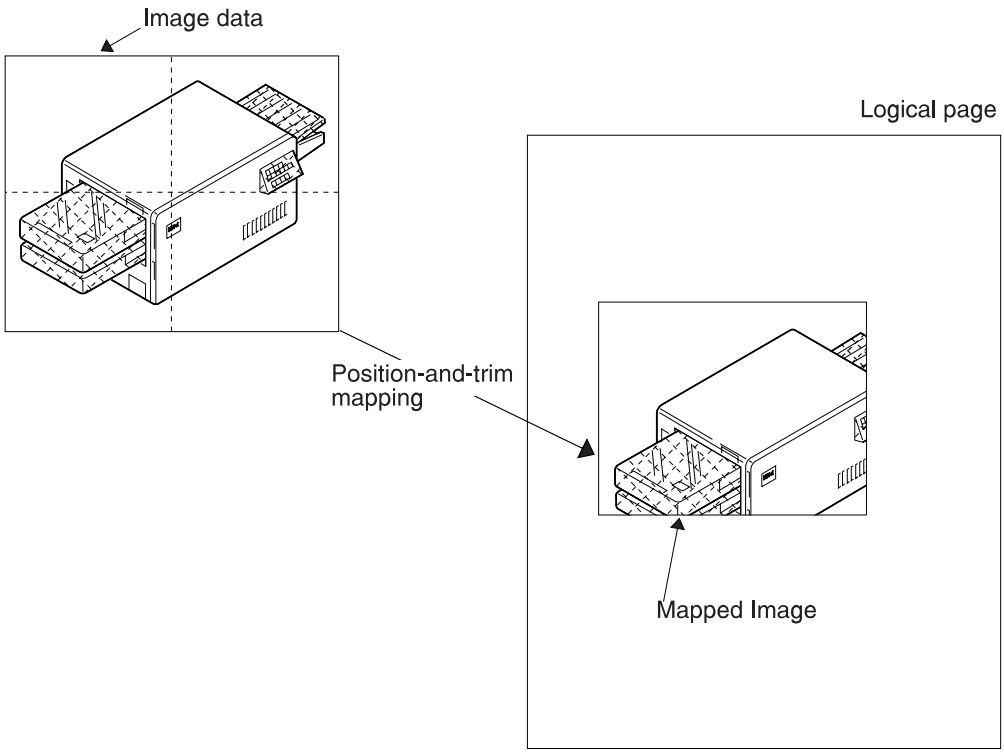
Any combination of the following elements can be printed as fixed data in a record layout:

Text Text with various fonts, underlined or not, color, and so on.
Lines and Boxes With various length, width, dashed, dotted, shaded, and so on.
Bar Codes For the supported bar code types, see “Bar Code” on page 253.
Images Page segments converted either from PC documents or physical file members.
Graphics The graphics data (GDF format) that reside in a physical file member or a PC document in a folder.

To create a PFD definition containing fixed data, define the contents of these elements. They are not affected by the contents of the database file to be printed. Some examples of using these elements are:

Text: Title
Lines and Boxes: Box
Images: Logo

The following is a sample of variable data and fixed data in a record layout and a page layout.



1. Variable data defined in the record layout:

   Text The name (Raymond Bills) and the employee number (058297).
   Bar code The employee number (058297) is printed as a bar code below the employee number printed as text.

2. Fixed data defined in the record layout:

   Text “Employee name :” and “Employee number :”
   Line Line between the text elements
   Box Box around the text elements

3. Fixed data defined in the page layout (the page layout is described in a later section):

   Text “Employee record” and “AS/400 Stationery Co., Ltd.”
   Image The logo at the top.

Concatenation of Variable Data and Fixed Data: You can concatenate variable data and fixed data by typing the text as follows:

```
                          Design Record Layout          Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004                %T001
005
006
007
008
009
010
011
012
                                                                        More...
                                  Define Text
 Mark . . . . . : *T001          Measurement method . . . . : Row/Column
 Position . . . . . Across     16     Down      4
 Text data  . . . . Product name :  &PRODUCT.  Price : &PRICE.

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

You can define fixed data in the same way data is defined with the overlay utility.

See Chapter 13, “Design Operation” on page 219 for more information about the design operation.

When you complete designing the record layout, press the F3 key to exit from this display.

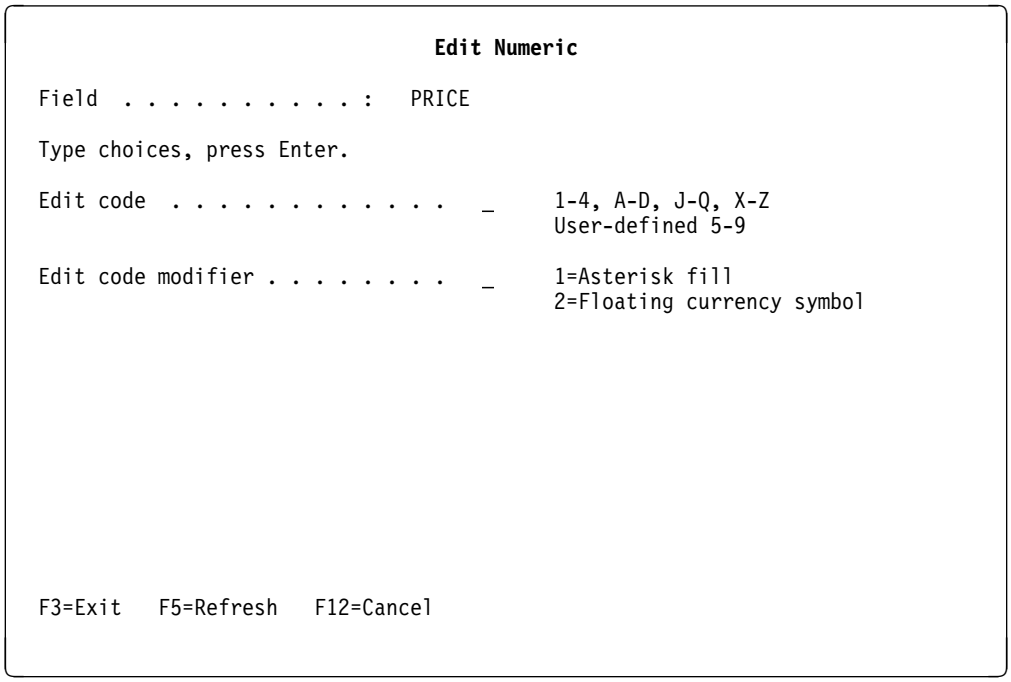
Numeric Editing

The Print Format Utility allows you to specify an edit code with which the numeric data from the database file should be printed. If any edit code is not specified, the Print Format Utility prints the numeric field data according to the editing information on the field definition, or the default format when the editing information does not exist.

The Print Format Utility allows you to specify an edit code for a field on the following elements in a record layout.

- Text data on a text element
- Text data on a box element

When a field name is specified on the *Text data* prompt on the Define Text Detail display or on the Define Box Detail display, press the F10 key and the following display appears:


Edit Numeric
Field . . . . . : PRICE
Type choices, press Enter.
Edit code . . . . . _ 1-4, A-D, J-Q, X-Z
User-defined 5-9
Edit code modifier . . . . . _ 1=Asterisk fill
2=Floating currency symbol
F3=Exit F5=Refresh F12=Cancel

On this display, you can specify an edit code and an edit code modifier.

Field Name	Description
Field	Shows the name of the field for which an edit code and edit code modifier can be specified.
Edit code	Specifies the edit code which will be used when the numeric field is printed. The allowable edit codes (1-9, A-D, J-Q, X-Z) and their printout format are the same as those supported by DDS. If this parameter is not specified, the Print Format Utility prints the field based on the editing information defined by DDS or IDDU.
Edit code modifier	This parameter is optional. It is effective only when one of 1-4, A-D, and J-Q is specified for the edit code parameter. **1** An asterisk (*) is printed for each zero that is suppressed. A complete field of asterisks is printed for a zero balance field. **2** The currency symbol defined on the system value QCURSYM is printed to the left of the first significant digit. The symbol is not printed on a zero balance when an edit code is used that suppresses the zero balance.

When you specify the above parameters and press the Enter key, the Define Text Detail display appears again.

When you specify multiple fields on the *Text data* prompt, the Select Fields to Edit Numeric display appears to select fields before the Edit Numeric display appears.

```
                        Select Fields to Edit Numeric

Type options, press Enter.
  1=Select

Opt     Field
 _      PRICE
 _      AMOUNT

                                                                      Bottom
F5=Refresh   F12=Cancel
```

The Edit Numeric display appears repeatedly for each selected field, and the Select Fields to Edit Numeric display appears again when the numeric code for the selected fields are specified.

Press Enter or the F12 key on the select display, then return to the Define Text Detail display (or the Define Box Detail display).

Design Page Layout

From the following display you can specify the design of the page layout.

```
                            Design Page Layout            Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                      More...
F3=Exit         F6=Text            F9=Line          F10=Box
F11=Bar code    F21=Element edit   F22=Block edit   F24=More keys
```

Initially, there is nothing defined in this page layout. Place records and define fixed data and variable data, such as summary data or reserved variable data in the page interactively.

You can define fixed data in the same way you do using the Overlay Utility. See Chapter 13, “Design Operation” on page 219 for more information about the design operation.

You can place the record in the following steps.

Press the F24 key to change the function key area in the following display.

```
                              Design Page Layout            Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
_____________________________________________________________________________
F5=Refresh    F13=Place       F14=Change      F15=Mark on/off
F16=Hide      F17=List view   F24=More keys
```

The function key area changes and F13 (Place) is displayed. To place a record, move the cursor to the desired position and press F13. The following display appears:

```
                              Design Page Layout            Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          %
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                          More...
F3=Exit      F6=Place graphics   F9=Place page segment
F11=Place record layout          F12=Cancel   F24=More keys
Press F6, F9 or F11 for graphics, page segment or record layout.
```

A % indicates the cursor position. (A mark is not displayed because the element type has not been specified.)

When F11 is pressed to place a record, a mark %R001-001 is displayed at the cursor position in the image area and the key entry area appears at the bottom portion of the display. The cursor moves to the first input field of the key entry area as follows:

```
                              Design Page Layout            Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          %R001-001
005
006
007
008
009
010
011
012
                                                                          More...
                              Place Record Layout
 Mark . . . . . : *R001          Measurement method . . . . : Row/Column
 Position . . . . . Across     10     Down      4


F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

The mark for the record layout has a trailing repetition number. This repetition number will be incremented by 1, such as *R001-002, *R001-003, and so on, when

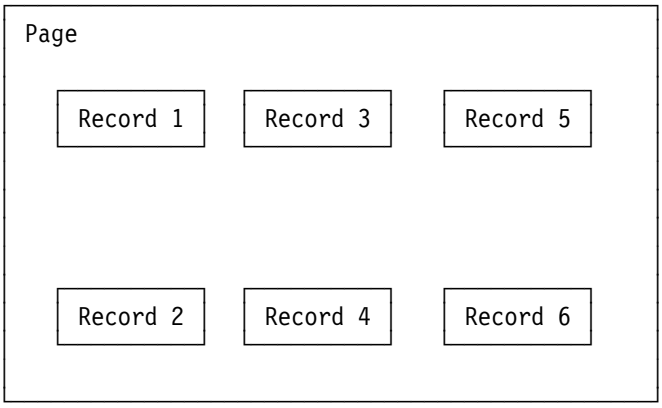
the record layout is repeated. See the following “Repetition of the Record in the Page” on page 168 for details on repetition of records.

When you press the Enter key, the record is placed and a mark *R001-001 is displayed at the position of the record. This mark indicates that the record is the first one in the page and not a repeated one.

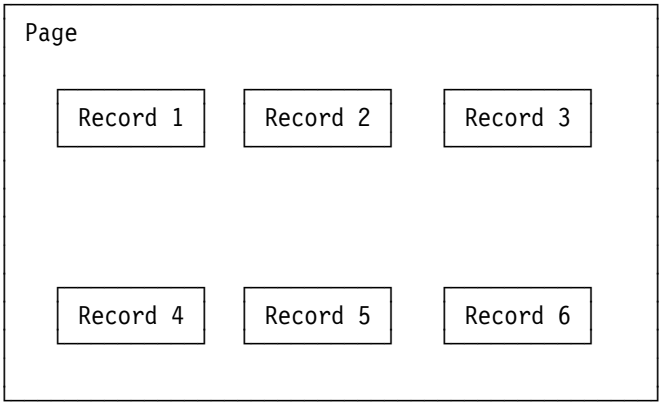
Repetition of the Record in the Page

There are two directions to repeat the records in the page. One is to repeat the records horizontally - from left to right first, and then from top to bottom. The other is to repeat the records vertically - from top to bottom first, and then from left to right. The following are examples:

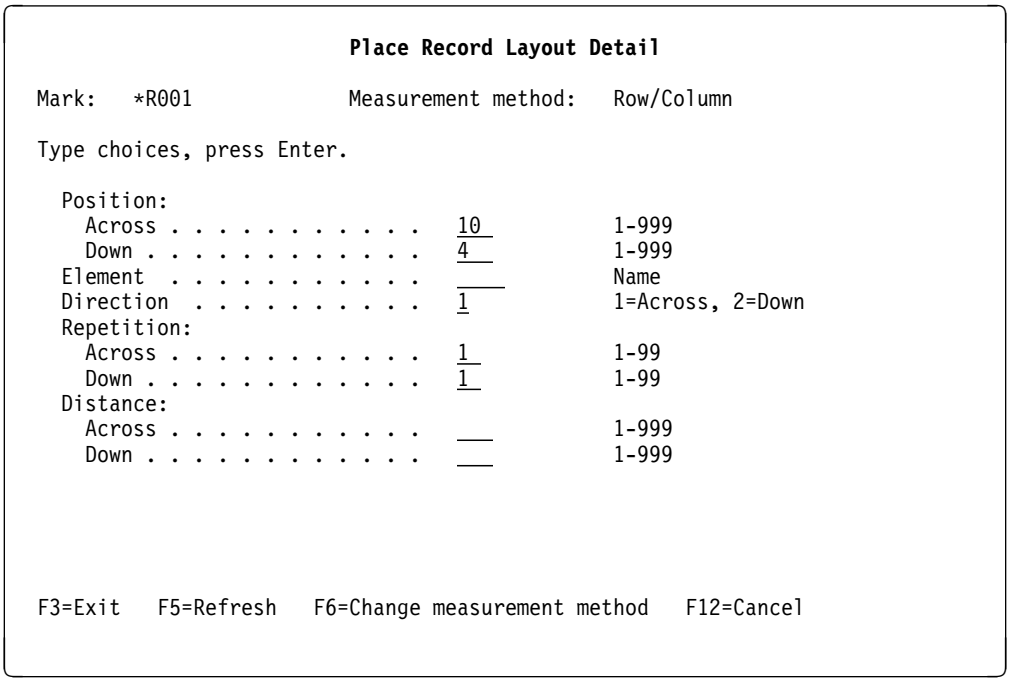
Sample of repeating records vertically



Sample of repeating records horizontally



To place the record repeatedly press F4 (Detail) to show the Place Record Layout Detail display.


Place Record Layout Detail
Mark: *R001 Measurement method: Row/Column
Type choices, press Enter.
Position:
Across 10 1-999
Down 4 1-999
Element . . . . . Name
Direction . . . . . 1 1=Across, 2=Down
Repetition:
Across 1 1-99
Down 1 1-99
Distance:
Across 1-999
Down 1-999
F3=Exit F5=Refresh F6=Change measurement method F12=Cancel

From this display, you can specify further detail characteristics of the record element. For example, you can specify the direction, repetition, and distance.

The following table explains each field of the Place Record Layout Detail display.

Field Name	Description
Mark	Shows the element mark. A mark is either a system-assigned mark or a user assigned-name, and is the same as that shown on the display. A mark is six characters long, the first character is an asterisk (*), and the last character is a blank. • For a system-assigned mark, the middle four characters are one character for the element type followed by a three-digit sequence number. For record layouts, the element type is R and the sequence number is 001 to 999. • For a user-assigned name, the middle four characters are four characters specified as the value for the element name. **Note:** When the record mark is displayed on the Design Page Layout screen, a dash and a three-digit repetition number are inserted after the fifth character of the record mark (for example, *R001-001).
Measurement method	Shows the measurement method used to specify position. You can change this value by pressing F6. You can also select centimeters or inches for the measurement unit in the Define PFD Specifications display by specifying unit of measure.
Position	The record position is defined by the horizontal distance (across) and the vertical distance (down) from the page origin.
Across	Specifies the horizontal origin of the element in the specified measurement method.
Down	Specifies the vertical origin of the element in the specified measurement method.
Element	An element name is 1 to 4 characters in length. If an element name is specified (not blank) for an element, the element mark is displayed as an asterisk (*) followed by the element name. It is not an asterisk (*) followed by the element type and three-digit sequence number.

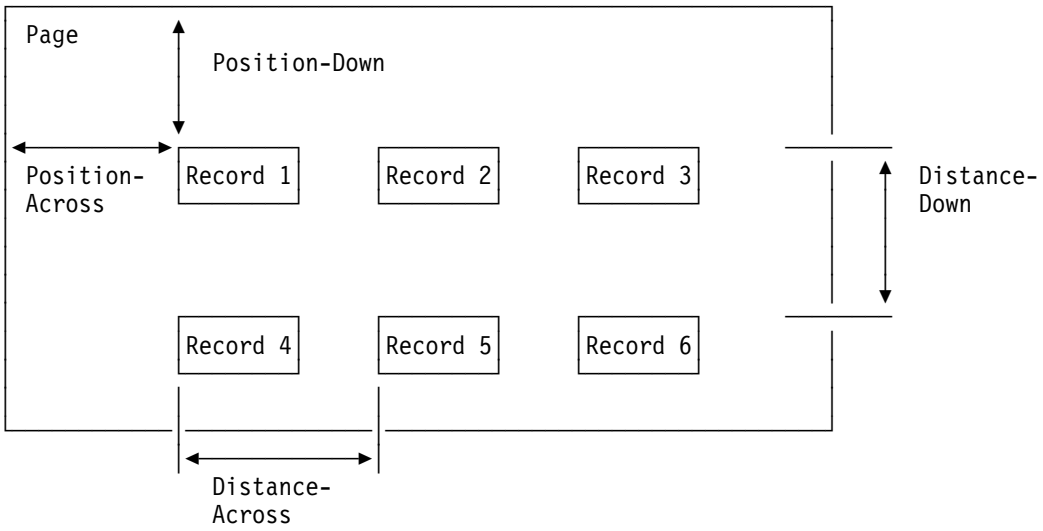
Field Name	Description
Direction	Records can be repeated in two directions. Select one of the following for the direction: **1** Across (from left to right first and then from top to bottom.) **2** Down (from top to bottom first and then from left to right.)
Repetition	Specifies how many times records are repeated on the page.
Across	Specifies how many times records are repeated on the page horizontally.
Down	Specifies how many times records are repeated on the page vertically.
Distance	Specifies the horizontal and the vertical distances between records.
Across	Specifies the horizontal distance between records in the specified measurement method.
Down	Specifies the vertical distance between records in the specified measurement method.

Type all choices and press the Enter key.

For example, specify the following data and press the Enter key.

```
                          Place Record Layout Detail

Mark:   *R001             Measurement method:   Row/Column

Type choices, press the Enter key.

  Position:
    Across . . . . . .   10          1-999
    Down . . . . . . .   4           1-999
  Element  . . . . . .   ____        Name
  Direction  . . . . .   1           1=Across, 2=Down
  Repetition:
    Across . . . . . .   3           1-99
    Down . . . . . . .   2           1-99
  Distance:
    Across . . . . . .   25          1-999
    Down . . . . . . .   8           1-999




                                                                        Bottom
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

The following figure shows the above choices:




```
Direction        :  1 (Across)
Repetition-Across:  3
Repetition-Down  :  2
Distance-Across  : 25
Distance-Down    :  8
```

The following display appears:

```
                              Design Page Layout            Columns:   1- 74
Control  . . _____     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          *R001-001                *R001-002                *R001-003
005
006
007
008
009
010
011
012          *R001-004                *R001-005                *R001-006
013
014
015
016
017                                                                      More...
_____________________________________________________________________________
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

The records are displayed as *R001-001, *R001-002, . . . *R001-006. Now you have completed placing the record(s) in the page. If you want to place fixed data (text, line, box, image, graphics, or bar code) in the page in addition to the record, move the cursor to the position you want to start the fixed data, and press the following keys.

F6	To define a text element.
F9	To define a line.
F10	To define a box.
F11	To define a bar code.
F13, then F6	To place a graphics element.
F13, then F9	To place a page segment.

See Chapter 13, “Design Operation” on page 219 for more information about the design operation.

The following display is an example of the page layout with four fixed data elements (three text elements, *T002, *T003, *T004, and one page segment, *S005).

```
                          Design Page Layout            Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001       *T002 print of product and price            *S005
002       *T003  is as follows: 1  2  3
003                             *T004 6
004          *R001-001                *R001-002                *R001-003
005
006
007
008
009
010
011
012          *R001-004                *R001-005                *R001-006
013
014
015
016
017                                                                    More...
_____________________________________________________________________________
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

When you press the F15 key to set mark off, the text can be fully displayed as follows:

```
                              Design Page Layout            Columns:   1- 74
Control  . . ______     PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001       Label print of product and price            *S005
002       Layout is as follows: 1  2  3
003                             4  5  6
004
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit         F6=Text             F9=Line           F10=Box
F11=Bar code    F21=Element edit    F22=Block edit    F24=More keys
```

Note: The mark *S005 remains since this is the last element in the page.

You can also define the following **summary data** to print summarized data of field values in the grouped database records as a text element or as text in a box element.

- The field value of the first record in the group.
- The field value of the last record in the group.
- The total of the field values in the group.
- The average of the field values in the group.
- The minimum field value in the group.
- The maximum field value in the group.
- The number of records in the group.

The summary data can be printed in the following two groups:

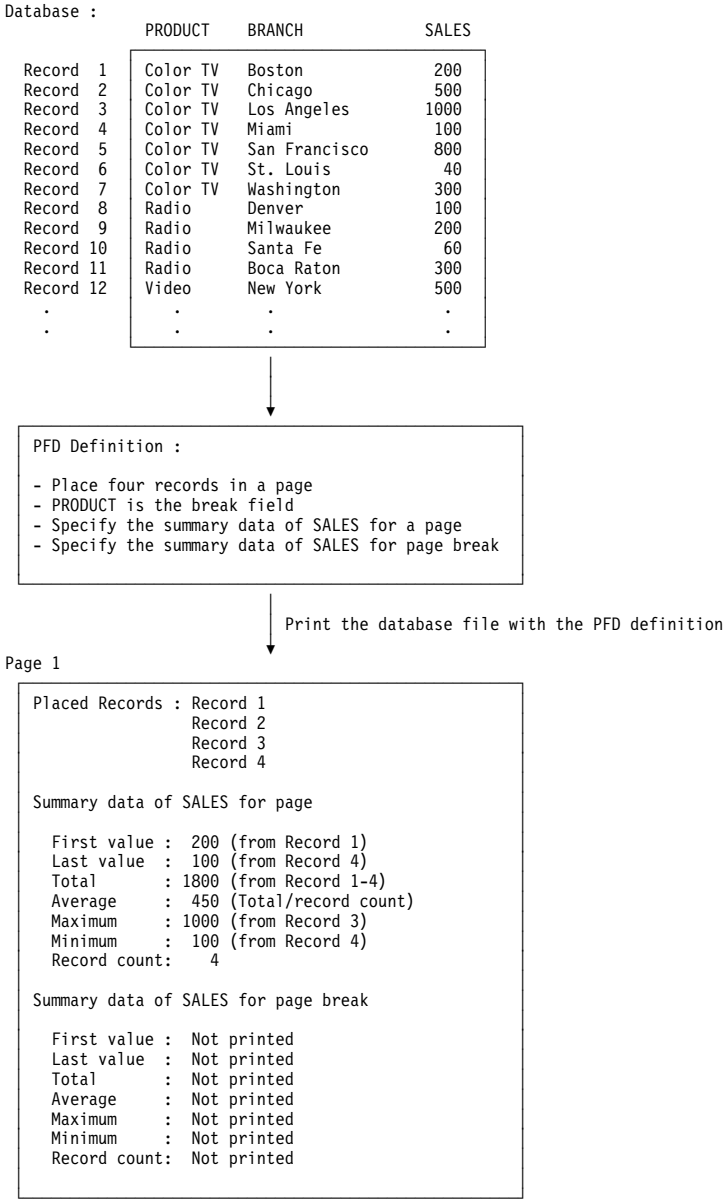
- Records in a page (summary for a page).

  The summary for a page is printed on the same page containing the summarized records.

- Records from a page break to the next page break (summary for page break).

  The summary data for page break is printed on the page containing the last record of the group.

The following example shows how each of the summary data is printed on the page:


Database :
PRODUCT BRANCH SALES
Record 1 Color TV Boston 200
Record 2 Color TV Chicago 500
Record 3 Color TV Los Angeles 1000
Record 4 Color TV Miami 100
Record 5 Color TV San Francisco 800
Record 6 Color TV St. Louis 40
Record 7 Color TV Washington 300
Record 8 Radio Denver 100
Record 9 Radio Milwaukee 200
Record 10 Radio Santa Fe 60
Record 11 Radio Boca Raton 300
Record 12 Video New York 500
PFD Definition :
- Place four records in a page
- PRODUCT is the break field
- Specify the summary data of SALES for a page
- Specify the summary data of SALES for page break
Print the database file with the PFD definition
Page 1
Placed Records : Record 1
Record 2
Record 3
Record 4
Summary data of SALES for page
First value : 200 (from Record 1)
Last value : 100 (from Record 4)
Total : 1800 (from Record 1-4)
Average : 450 (Total/record count)
Maximum : 1000 (from Record 3)
Minimum : 100 (from Record 4)
Record count: 4
Summary data of SALES for page break
First value : Not printed
Last value : Not printed
Total : Not printed
Average : Not printed
Maximum : Not printed
Minimum : Not printed
Record count: Not printed

Note: The page break does not occur on the page 1 because the value of the PRODUCT field does not change. Therefore, summary data for page break is not printed.

```
Page 2
Placed Records : Record 5
                 Record 6
                 Record 7

Summary data of Sales for page

  First value :  800 (from Record 5)
  Last value  :  300 (from Record 7)
  Total       : 1140 (from Record 5-7)
  Average     :  380 (Total/record count)
  Maximum     :  800 (from Record 5)
  Minimum     :   40 (from Record 6)
  Record count:    3

Summary data of SALES for page break

  First value :  200 (from Record 1)
  Last value  :  300 (from Record 7)
  Total       : 2940 (from Record 1-7)
  Average     :  420 (Total/record count)
  Maximum     : 1000 (from Record 3)
  Minimum     :   40 (from Record 6)
  Record count:    7
```

Note: The page break occurs on record 8. Record 8 is printed on the next page. The summary data for the page break summarizes all sales data for PRODUCT Color TV.

```
Page 3
Placed Records : Record  8
                 Record  9
                 Record 10
                 Record 11

Summary data of Sales for page

  First value :  100 (from Record 8)
  Last value  :  300 (from Record 11)
  Total       :  660 (from Record 8-11)
  Average     :  165 (Total/record count)
  Maximum     :  300 (from Record 11)
  Minimum     :   60 (from Record 10)
  Record count:    4

Summary data of SALES for page break

  First value :  100 (from Record 8)
  Last value  :  300 (from Record 11)
  Total       :  660 (from Record 8-11)
  Average     :  165 (Total/record count)
  Maximum     :  300 (from Record 11)
  Minimum     :   60 (from Record 10)
  Record count:    4
```

Note: The page break occurs on record 12. This page contains the last record before the page break, so the summary data for the page break is printed on this page. The previous page break occurred on the previous page, so the summary data for the page break is equal to the summary data for the page, and it summarizes all sales data for PRODUCT Radio.

The end of data is handled as a page break. The summary data for the page break is printed on the last page.

To define summary data in a text element or a box element in a page layout, you need to specify which field is summarized, and which summary data is printed on the *Text data* prompt by typing an ampersand(&), the field name, a left parenthesis '(', the strings for the summary data, a right parenthesis ')', and a period '.' without inserting any spaces as follows:

```
Text data . . . . &SALES(*TOTAL).______________________________
```

The strings for each summary data are:

Summary Data	Strings
First value	*FIRST
Last value	*LAST
Total	*TOTAL
Average	*AVG
Maximum value	*MAX
Minimum value	*MIN
Record count	*CNT

You can press the F4 key on the *Text* prompt of the Define Text Detail display or the Define Box Detail display to display the Select Field in Record Format display as with the Design Record Layout display.

When you select a database file field on the Select field in Record Format display and press the Enter key, the Define Text Detail display (or the Define Box Detail display) appears with the selected field in the *Text data* prompt as follows:

```
        Text data . . . . . . . . . . . &SALES(*FIRST).
```

*FIRST is the default summary function. You can show the Define Summary Data display by pressing the F10 key, and change the summary function. You can also specify an edit code for the summary data on the display.

```
                          Define Summary Data

Field  . . . . . . . . . . :   PRICE

Type choices, press Enter.

Summary function . . . . . . . . .   *FIRST       *FIRST, *LAST, *TOTAL, *AVG
                                                   *MAX, *MIN, *CNT

Numeric editing:

  Edit code  . . . . . . . . . . .   _             1-4, A-D, J-Q, X-Z
                                                   User-defined 5-9

  Edit code modifier . . . . . . .   _             1=Asterisk fill
                                                   2=Floating currency symbol




F3=Exit   F5=Refresh   F12=Cancel
```

Field Name	Description
Field	Shows the field name for which the summary function is being used.
Summary function	Shows the special value used to summarize the field values. The following summary function special values can be specified to print the summary data. ***FIRST** The first value in the specified field. ***LAST** The last value in the specified field. ***TOTAL** The total of the values in the specified field. This summary data is effective for numeric fields, excluding floating-point data. The number of integer digits of the total is the number of integer digits of the field plus three. For example, the total of the field whose integer digits are three and the fractional digits are two is printed as numeric data with six integer digits and two fractional digits. ***AVG** The average of the value in the specified field. This summary data is effective for numeric fields, excluding floating-point data. ***MAX** The maximum value in the specified field. ***MIN** The minimum value in the specified field. ***CNT** The record count. It is printed as 8 digit integer. If there is a record whose field value is null, the record is not counted.
Edit code	Specifies the edit code in which the summary data is printed. The allowable edit codes (1-9, A-D, J-Q, X-Z) and their printout format are the same as those supported on DDS. If this parameter is not specified, the Print Format Utility prints the field based on the editing information defined by DDS or IDDU except for the record count. The Print Format Utility prints the record count with the leading zeros suppressed by blanks if an edit code is not specified.
Edit code modifier	This parameter is optional. It is effective only when one of 1-4, A-D, and J-Q is specified on the edit code parameter. **1** An asterisk (*) is printed for each zero that is suppressed. A complete field of asterisks is printed for a zero balance field. **2** The currency symbol defined on the system value QCURSYM is printed on the left of the first significant digit. The symbol is not printed on a zero balance when an edit code is used that suppresses the zero balance.

When you specify the above parameters and press the Enter key, the Define Text Detail display (or the Define Box Detail display) appears again.

When you specify multiple summary data on the *Text data* prompt, the Select Fields to Define Summary Data display appears. You can select fields to change the summary function or specify an edit code on the display.

The Define Summary Data display appears repeatedly for each selected field.

If you specify break fields, you can print the summary data for each page break or for each page by specifying `Y` or `N` for the *Print at page break only* prompt on the Define Text Detail display (or the Define Box Detail display). The *Print at page break only* prompt appears at the bottom of the Detail display, and it appears only when you specify break fields. For example, if you want to print the total of the SALES field for each page, specify the prompts as follows:

```
Text data . . . . . .    &SALES(*TOTAL).
  .
  .
  .
Print at page break only  . .    N
```

If you want to print the total of the SALES field only for page breaks, specify the prompts as follows:

```
Text data . . . . . .    &SALES(*TOTAL).
  .
  .
  .
Print at page break only  . .    Y
```

You can concatenate summary data with other summary data, constants, and reserved variable names as follows:

```
&SALES(*TOTAL). is for &PRODUCT(*FIRST)..
&SALES(*TOTAL). as of &*DATE..
```

You can also specify the following elements to be printed only when a page break occurs. For example, you can print them as the header and the frame of summary data.

- Text element
- Bar code element
- Box element
- Line element
- Page segment element
- Graphics element

To print an element only when a page break occurs, specify `Y` for the *Print at page break only* prompt on the detail display such as the Define Line Detail display. When the element is specified to be printed only when a page break occurs, the mark on the design display is displayed with the character '>' after the element number as follows:

```
*L001>
*T002>
```

You can define reserved variable data both in a page layout and in a record layout.

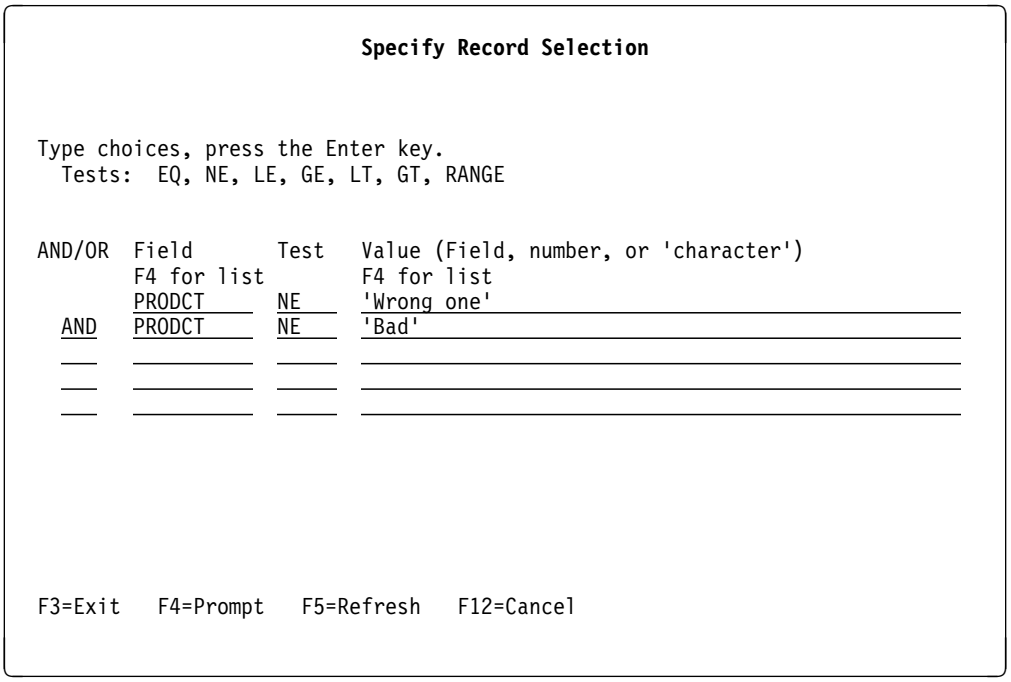
Note: The value used for the *RCDNBR special value in a page layout is the record number of the last record on the page.

See page 159 for more information.

When you have completed the design of the page layout, press the F3 key to exit from the Design Page Layout display.

Specify Record Selection

This is an optional step. If no conditions are specified for record selection from this display, all records in the database file member are printed.


Specify Record Selection
Type choices, press the Enter key.
Tests: EQ, NE, LE, GE, LT, GT, RANGE
AND/OR Field Test Value (Field, number, or 'character')
F4 for list F4 for list
PRODCT NE 'Wrong one'
AND PRODCT NE 'Bad'
F3=Exit F4=Prompt F5=Refresh F12=Cancel

You can specify **up to five** logical conditions to select records. The Print Format Utility compares the content of the specified field of each record with the specified value, and prints only those records whose test results are true.

The following table describes the columns in the Specify Record Selection display.

Column	Description

AND/OR	AND and OR are the only values that you can specify in the *AND/OR* column. If this column is left blank and the other three columns (Field, Test and Value) in the same line are specified, AND is assumed.
	
	If AND and OR are specified together, AND is evaluated before OR. For example,
	
	`YEAR EQ 1990`
	`AND MONTH RANGE 11 12`
	`OR YEAR EQ 1991`
	`AND MONTH RANGE 1 2`
	
	means the period from November 1990 through February 1991.

Field	Any fields of the input record format in the input database file can be specified. You can list all fields in the database file by pressing the F4 key after positioning the cursor in this column.

Column	Description

Test	Test is the logical condition for data selection. One of the following can be specified:
	EQ Test is positive when the content of the field is equal to the value. For example,
	`PRICE EQ 200`
	Records are selected if the field PRICE contains a value of 200.
	NE Test is positive when the content of the field is not equal to the value.
	LE Test is positive when the content of the field is less than or equal to the value.
	GE Test is positive when the content of the field is greater than or equal to the value.
	LT Test is positive when the content of the field is less than the value.
	GT Test is positive when the content of the field is greater than the value.
	RANGE Test is positive when the content of the field is between or equal to one of the two values.
	`PRICE RANGE 100 300`
	Records are selected if the field PRICE contains a value between 99 and 301. This is the same as the following:
	`PRICE GE 100`
	`AND PRICE LE 300`

Column	Description
Value	One of the following can be specified: • Numeric constant This is possible when the field is numeric type data. A numeric constant can be from 1 to 31 digits long, and can contain the following characters: – Digits (0 through 9) – A plus sign (+) or minus sign (-) at the beginning – A period. Floating point expressions are not allowed, although floating point data is allowed. Examples: **Correct** **Incorrect** **Reason** +12.5 +12.5.0 2 periods are contained. -20 20- - does not come first .00005 .0000A5 "A" is not numeric 123456 1.23456E+5 Floating point expression • Character constant like 'ABC' This is possible when the field is character type data. The maximum for a character length is the same as the length of the *Value* column. A character constant is simply characters enclosed in apostrophes (for example, 'xxx'). If a character constant contains an apostrophe, it must be entered as two apostrophes. For example, if you want to print records that list the street addresses as Granger's Circle, type the constant as 'Granger''s Circle'. Examples: **Correct** **Incorrect** **Reason** 'ABCDEF' ABCDEF No apostrophe, recognized as a field name. 'abc def' 'abc def Last apostrophe is missing. 'Tom''s bed' 'Tom's bed' Double apostrophe is required. '123456' 123456 No apostrophe, recognized as a numeric constant. • A field name in the database file member Any fields in the input database file member can be specified, but its data type must match with the data type specified in the *Field* column. For example, if the data type is numeric, you must specify it as numeric data. If it is character data, you must specify it as character data. Comparison of SBCS type and DBCS type is allowed. You can select a field name from the list of field names in the database file by pressing F4. If a field and a value are not of the same length, the Print Format Utility handles the shorter one as if it has the same length as the longer one as follows: • 0's are added at the left of numeric values. • SBCS blanks are added at the right of character values.

Define Printout Specifications

```
                    Define Printout Specifications

Type choices, press Enter.

Copies . . . . . .  1__          1-255
Print fidelity . . .  *CONTENT   *CONTENT, *ABSOLUTE
Print quality  . . .  *STD__     *STD, *DRAFT, *NLQ
Duplex . . . . . .  N            Y=Yes, N=No
Omit back side page layout . . . .  N  Y=Yes, N=No
Form type  . . . . . .  *STD_____  Character value, *STD
Source drawer  . . . . . .  1__  1-255, *E1
Front side overlay:
  Overlay  . . . . . .  *NONE___  Name, *NONE, F4 for list
    Library  . . . . . .  *LIBL_____  Name, *LIBL, *CURLIB
  Offset across  . . . . . .  .00__  0.00-22.75
  Offset down  . . . . . .  .00__  0.00-22.75
Back side overlay:
  Overlay  . . . . . .  *NONE___  Name, *NONE, F4 for list
    Library  . . . . . .  *LIBL_____  Name, *LIBL, *CURLIB
  Offset across  . . . . . .  .00__  0.00-22.75
  Offset down  . . . . . .  .00__  0.00-22.75
                                                          More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

```
                    Define Printout Specifications

Type choices, press Enter.

Form definition  . . . . . .  *DEVD___  Name, *DEVD, *INLINE
  Library  . . . . . .  __________  Name, *LIBL, *CURLIB

                                                          Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

The Define Printout Specifications display allows you to define how the printout will be printed, such as:

- Number of copies
- Print quality
- Source drawer

Prompt	Description
Copies	Specifies the number of copies to print. The possible values are: **1** Only one copy of the output is printed. **number-of-copies** Specify a value ranging from 1 through 255.
Print fidelity	Specifies what action should be taken when any errors are detected when the printout is being printed by the writer. The possible values are: ***CONTENT** Printing is performed as long as there is any way to correct the error. For example, • Alternate font is used if the specified font is not available. • Data is ignored and not printed if the function is not supported by the destination printer. A bar code is an example. ***ABSOLUTE** Printing is canceled when any errors are found. Printing completes only when the file can be printed exactly as is specified by the data stream. For example, • Alternate font is used, if the specified font is not available, only when a font of the identical characteristics is available. Otherwise, printing is canceled.
Print quality	Specifies the quality of printout produced. The possible values are: ***STD** The output is printed with standard quality. ***DRAFT** The output is printed with draft quality. ***NLQ** The output is printed with near letter quality.
Duplex	Specifies whether the output is printed on one side or on both sides of the paper. The possible values are: **N (No)** The output is printed on one side of the paper. **Y (Yes)** The output is printed on both sides of the paper, with the top of each printed page at the same end of the sheet of paper. This is usually done for output that is bound at the side.
Omit back side page layout	Specifies whether the page layout should be printed only on the front side of the paper. This option is used when only a back side overlay is to be printed on the back side of the paper. The possible values are: **N (No)** The page layout is printed on both sides of the paper. **Y (Yes)** The page layout is printed only on the front side of the paper. **Note:** Y can only be specified for Omit back side page layout when Y is specified for Duplex and a back side overlay is specified.
Form type	Specifies the type of forms used in the printer. The possible values are: ***STD** The standard form for your system is used. **Form-type** Specify the identifier of the form type used with this printer device file for printed output.

Prompt	Description
Source drawer	Specifies the source drawer used when cut sheets are fed into the printer. The possible values are: **1-255** Specifies the number of the source drawer. ***E1** The envelopes are fed from the envelope drawer. ***CUT** For printers with manual feed, cut sheets are fed manually through the manual feeder.
Front side overlay	Specifies the name of the overlay and library to be printed on the front side of the page. This parameter also specifies the point where the overlay is placed. The possible values are: ***NONE** No overlay is to be used. **Overlay name** Specifies the name of the overlay. You can list the overlay names by pressing F4 after moving the cursor to this prompt.
Library	The possible values for library are: ***LIBL** The library list is used to locate the overlay. ***CURLIB** The current library for the job is used to locate the overlay. If no library is specified as the current library for the job, library QGPL is used. **Name** Specify the name of the library where the overlay is located.
Offset across	Specifies the horizontal position where the overlay is placed (the offset). Valid value range is • 0.0-22.75 (in inches) • 0.0-57.79 (in centimeters)
Offset down	Specifies the vertical position where the overlay is placed (the offset). Valid value range is • 0.0-22.75 (in inches) • 0.0-57.79 (in centimeters)
Back side overlay	Specifies the name of the overlay and library be printed on the back side of the page. This parameter also specifies the point where the overlay is placed. The possible values are: ***NONE** No overlay is to be used. **Overlay name** Specify the name of the overlay. You can list the overlay names by pressing F4 after moving the cursor to this prompt.
Library	The possible values for library are: ***LIBL** The library list is used to locate the overlay. ***CURLIB** The current library for the job is used to locate the overlay. If no library is specified as the current library for the job, library QGPL is used. **Name** Specify the name of the library where the overlay is located.
Offset across	Specifies the horizontal position where the overlay is placed (the offset). Valid value range is • 0.0-22.75 (in inches) • 0.0-57.79 (in centimeters)

Prompt	Description
Offset down	Specifies the vertical position where the overlay is placed (the offset). Valid value range is • 0.0-22.75 (in inches) • 0.0-57.79 (in centimeters)
Form definition	Specifies the form definition to be used when printing the spooled file created by the print format utility. The possible values are: ***DEVD** Specifies that the form definition specified in the device description should be used. ***INLINE** Specifies that the Print Format Utility should create an inline form definition to be used when printing the data. See the form definition help text for additional information. **Form definition name** Specifies the name of the form definition.
Library	The possible values for library are: ***LIBL** The library list is used to locate the form definition. ***CURLIB** The current library for the job is used to locate the form definition. If no library is specified as the current library for the job, library QGPL is used. **Name** Specifies the name of the library where the form definition is located.

Specify Mapping Object Name

```
                        Specify Mapping Object Name

Type options, press the Enter key.
  1=Select

 OPT          Object
  _           Page segment
  _           Folder
  _           PC document
  _           Library
  _           File
  _           Member









F3=Exit   F5=Refresh   F12=Cancel
```

You can specify field names in the object name parameters of the Place Page Segment display or the Place Graphics display. When you specify field names, you can specify the mapping of a field value to an object name, if required.

For example, if you want to print various logos of the company based on the company name field in the database file, you need to name the page segment objects containing logo data the same as the company names in the field. But in some cases, the length and the characters of the company name may be invalid for AS/400 object names. AFP Utilities for AS/400 provides the function that maps a field value in the database file to an object name in the AS/400 system for the above case.

You can specify which value should be mapped to which AS/400 object name. The mapping can be specified for each object type, page segment, document, folder, file, library, and member. For example, a field value 'IBM Co.' can be mapped to a page segment name 'QFCLOGO' and a file name 'QAFCGRPH'.

When variable data is specified for page segments or graphics, AFP Utilities for AS/400 searches the specified mapping for the object type in the PFD definition. If no mapping is specified for the object type, or the searching field value is not found, the field value is taken as an object name. If the length of the field value is longer than the maximum object name length, the characters on the right are ignored.

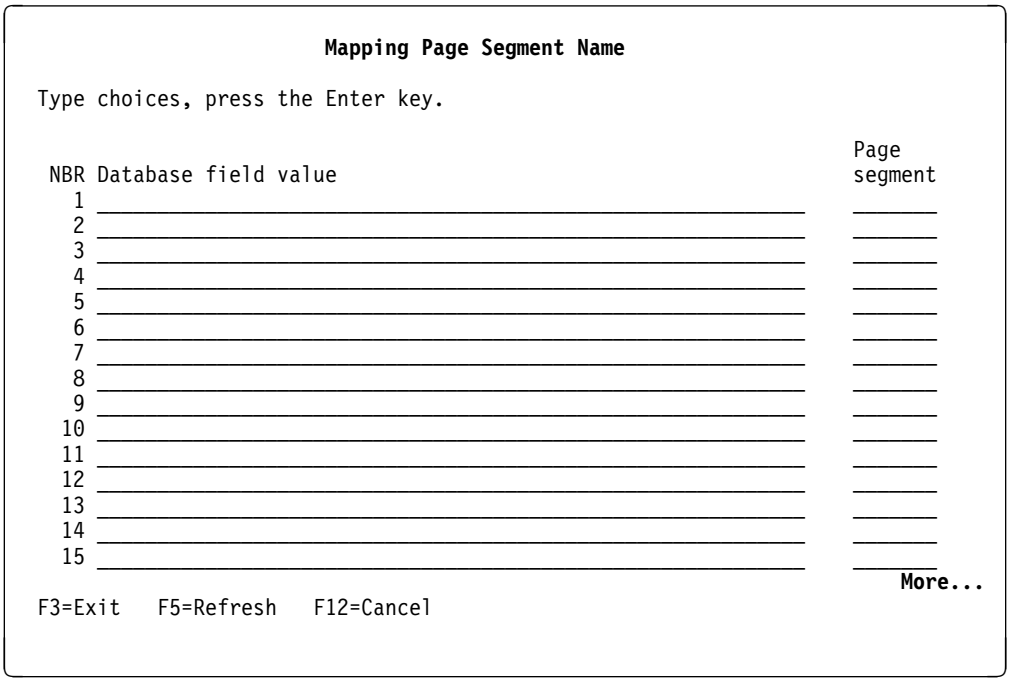
The Specify Mapping Object Name display allows you to select the object to specify the mapping. You can select :

- Page segment
- Folder
- PC document
- Library
- File
- Member

Field Name	Description
1=Select	Allows you to select one or more objects from the list.
Opt	Specify 1 (Select) in the *Opt* column beside the object you want to select.
Object	The objects for which you can specify the mapping.

When you select *Page segment* on the Specify Mapping Object Name display, the following display appears:

Note: Similar displays appear for other objects.



The following table explains each field of the Mapping Page Segment Name display:

Field Name	Description
NBR	Shows the serial number of the mapping. You can specify up to 99 mappings.
Database field value	Specifies the field value in the database record. The comparison between the data specified on this field and the data in the record is processed as characters with blank padding to the right of actual data. If the field is a numeric field, AFP Utilities for AS/400 converts the numeric value to a character string based on the numeric definition (total digit, fractional digit, edit code, and so on). Then AFP Utilities for AS/400 searches the value in the mapping with the converted string. You can specify an asterisk (*) as a wild card. AFP Utilities for AS/400 maps all variable data beginning with the specified characters. The format of a wild card is 'ABC*'. When you use this wild card, all variables beginning with 'ABC' such as 'ABC', 'ABCD', or 'ABC123' can be mapped to the object specified in the *Page segment* field. **Note:** When the value from the database field matches more than one value specified in the *Database field value* on the Mapping Page Segment Name screen, the mapping value with the lowest sequence number is used. This should be considered when a wildcard is first in sequence. In the following example, the wildcard is tested first and will get a match on 'ABC'. The mapping values for 'ABC' and 'ABA' are never tested. **NBR** **Database field value** **1** AB* **2** ABC **3** ABA
Page segment	Specifies the page segment name to which the field value should be mapped.

Note: You can specify the data in the same way when other object types are mapped.

Saving PFD Definition

When you complete the PFD definition, the Create PFD Definition display or the Change PFD Definition display appears. Press the F3 key to exit from defining PFD definition. The following display appears:

```
                          Exit PFD Definition

Type choices, press Enter.

  Option  . . . . . . . . . . . . .   1      1=Save and exit
                                             2=Exit without saving
                                             3=Resume PFU session

  Return to PFD definition list . .   Y      Y=Yes, N=No

F12=Cancel
```

You can specify how you exit from PFD definition. You can choose:

- Whether or not to save the PFD definition.
- Which display you want to return to.

The following table explains each field of the Exit PFD Definition display.

Field Name	Description
Option	Specify one of the following numbers to specify how you want to handle the PFD definition that you were just working with: **1** The *Save and exit* prompt allows you to save the PFD definition that you have just created and to exit from the task. **2** The *Exit without saving* prompt allows you to exit from the task without saving the PFD definition that you have just created. **3** The *Resume PFU session* allows you to return to the Create PFD Definition display or the Change PFD Definition display.
Return to PFD definition list	Specifies one of the following selections: **Y (Yes)** Returns to the Work with PFD Definitions display. **N (No)** Bypasses the Work with PFD Definitions display and returns to the display from which you started the Print Format Utility.

Type all choices and press the Enter key.

When you specify 1 in the *Option* prompt and Y in the *Return to PFD definition list* prompt, the following display appears:

```
                          Save PFD Definition

 Type choices, press Enter.

   PFD definition . . . . . .   PFDNEW      Name, F4 for list
   File . . . . . .             PFUFILE     Name, F4 for list
     Library  . . . . . .         PFULIB    Name, *CURLIB
   Text 'description' . . . .   Sample PFD definition
_____
   Delete removed elements  . . . . . .   N             Y=Yes, N=No









 F4=Prompt   F5=Refresh   F12=Cancel
```

Specify the name of the PFD definition, the PFD definition file, the library, and the description text.

You can also specify whether or not to delete any removed elements.

The following table explains each field of the Save PFD Definition display.

Field Name	Description
PFD definition	Specifies the name used to store the PFD definition you have just created. This name must be a valid OS/400 member name. You can see the list of existing PFD definitions in the specified PFD definition file by pressing F4.
File	Specifies the name of the PFD definition file in which the PFD definition is to be stored. This name must be a valid OS/400 file name. You can see the list of existing PFD definition files in the specified library by pressing F4 and select a PFD definition file from the list.
Library	Specifies the name of the library in which to store the PFD definition. This name must be a valid OS/400 library name.
Text 'description'	Specifies up to 50 characters that describe the PFD definition that is being saved.
Delete removed elements	Specify Y (Yes) if you want to delete removed elements and re-number other elements, otherwise N (No).

When you press the Enter key after specifying these prompts, the following display appears:

```
                          Work with PFD Definitions

File  . . . . . .   PFUFILE___     Name, F4 for list
  Library . . . . . .   PFULIB____   Name, *LIBL, *CURLIB
PFD definition  . . . . .  *ALL_____    Name, generic*, *ALL
Position to . . . . . .   __________    Starting characters

Type options, press the Enter key.
  1=Create   2=Change   3=Copy   4=Delete   6=Print PFD definition   7=Rename
  9=Print database file

     PFD
Opt  Definition  Text                                                Changed
 _   PFDNEW____
 _   PFDNEW      Sample PFD definition                               12/13/90
 _   PFD1        Sample PFD definition                               12/13/90
 _   PFD2        Sample PFD definition                               12/13/90
 _   PFD3        Sample PFD definition                               12/13/90
                                                                       Bottom
Parameters or command
===> ____________________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel

PFD definition PFDNEW saved in file PFUFILE successfully.
```

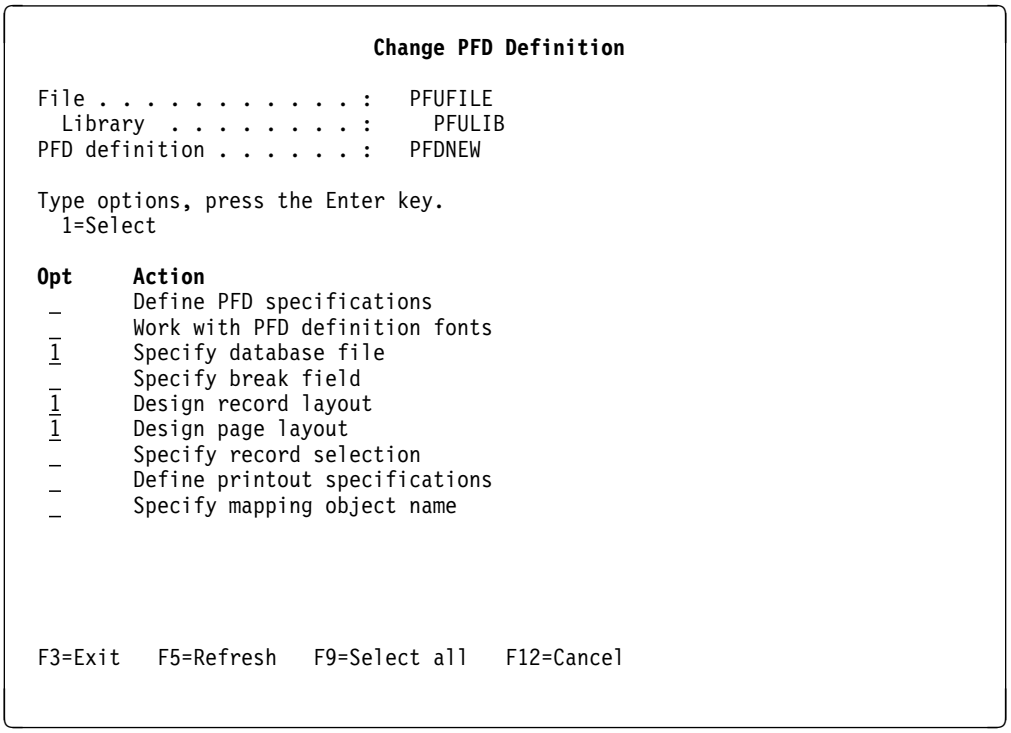
Press the F3 key to exit from the above display. The display from which you started Print Format Utility appears.

2=Change PFD Definition

To change a PFD definition, do the following on the display on page 139.

1. Type 2 in the *Opt* column beside the PFD definition that you want to change.
2. Press the Enter key.

The following display appears:


Change PFD Definition
File . . . . . : PFUFILE
Library . . . . . : PFULIB
PFD definition . . . . . : PFDNEW
Type options, press the Enter key.
1=Select
Opt Action
_ Define PFD specifications
_ Work with PFD definition fonts
1 Specify database file
_ Specify break field
1 Design record layout
1 Design page layout
_ Specify record selection
_ Define printout specifications
_ Specify mapping object name
F3=Exit F5=Refresh F9=Select all F12=Cancel

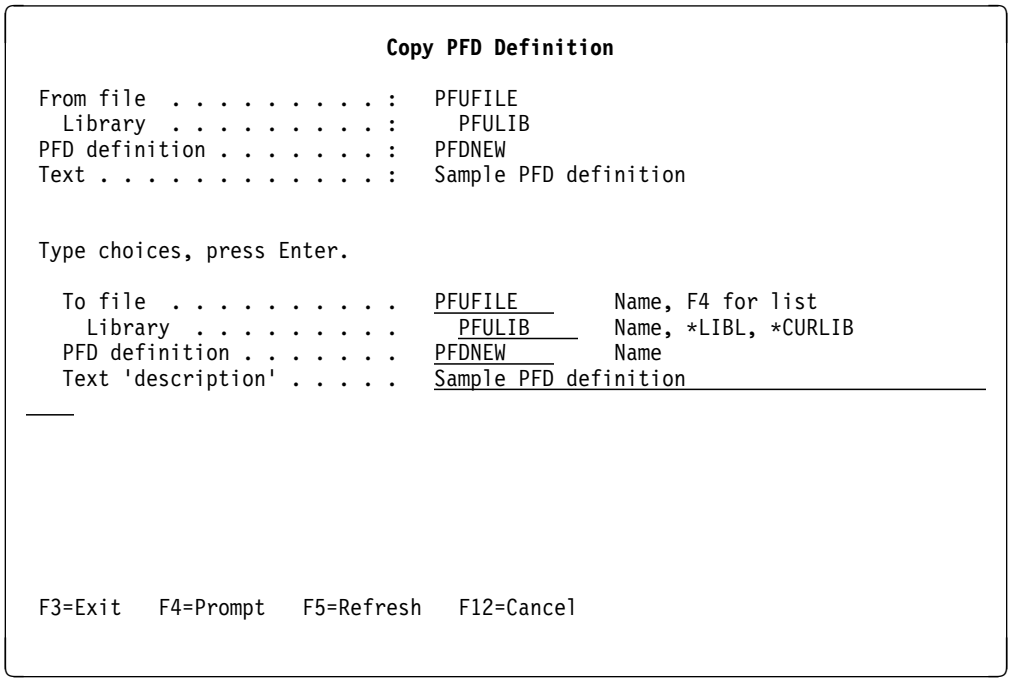
To change a PFD definition, select the actions on the above display in the same way as when creating a PFD definition. See the “1=Create PFD Definitions” on page 143 for more information.

3=Copy PFD Definition

To copy a PFD definition, do the following on the display on page 139.

1. Type 3 in the *Opt* column beside the PFD definition that you want to copy.
2. Press the Enter key.

The following display appears:


Copy PFD Definition
From file . . . . . : PFUFILE
Library . . . . . : PFULIB
PFD definition . . . . . : PFDNEW
Text . . . . . : Sample PFD definition
Type choices, press Enter.
To file . . . . . PFUFILE Name, F4 for list
Library . . . . . PFULIB Name, *LIBL, *CURLIB
PFD definition . . . . . PFDNEW Name
Text 'description' . . . . . Sample PFD definition
F3=Exit F4=Prompt F5=Refresh F12=Cancel

Using the Copy PFD Definition display, you can copy a PFD definition in the same or different file or library.

The following table explains each field of the Copy PFD Definition display.

Field Name	Description
From file	Shows the name of the PFD definition file that contains the PFD definition you are going to copy.
Library	Shows the name of the library containing the file with the PFD definition you are going to copy.
PFD definition	Shows the name of the PFD definition you are going to copy.
Text	Shows the text description of the PFD definition you are going to copy.
To file	Specify the PFD definition file you are going to copy the PFD definition to. You can see the list of existing PFD definition files in the specified library by pressing F4 and select a PFD definition file from the list. This prompt has the same file name as the from PFD definition file name. Leave the default if you want to copy the PFD definition to a different PFD definition name or to a different library with the same file name.
Library	Specify the library you are going to copy the PFD definition to. This prompt has the same library name as the from library name. Leave the default if you want to copy the PFD definition to a different file or to different PFD definition in the same library. The possible values in this field are: ***LIBL** To specify the file that will contain the copied PFD definition is in one of the libraries in the library list. ***CURLIB** To specify that the file that will contain the copied PFD definition is in the current library. If no library is specified as the current library for the job, library QGPL is used. **library-name** Specifies the specific library name you want to copy the PFD definition to.

Field Name	Description
PFD definition	Specify the new PFD definition you are going to copy to. This prompt has the same PFD definition name as the from PFD definition name. Leave the default if you want to copy the PFD definition to a different file or to different library with the same PFD definition name.
Text 'description'	Specify a short description of the PFD definition in this prompt or leave the default if you want to copy the PFD definition with the same description as the description of the from PFD definition. This description is saved with the PFD definition and displayed when the PFD definitions are listed to help you identify the PFD definitions.

Change the PFD definition name to PFDNEW2.

When you press the Enter key, the PFD definition is copied. When the copy is completed, the screen returns to the Work with PFD definitions display on page 139.

4=Delete PFD Definition

To delete PFD definitions, do the following on the display on page 139.

1. Type 4 in the *Opt* column beside the PFD definition that you want to delete.
2. Press the Enter key.

The following display appears:

```
                    Confirm Delete of PFD Definitions

File . . . . . :   PFUFILE
  Library  . . . . . :     PFULIB

Press Enter to confirm your choices for 4=Delete.
Press F12 to return to change your choices.

     PFD
Opt  Definition  Text                                          Changed
 4   PFDNEW      Sample PFD definition                         12/13/90









                                                                  Bottom
F11=Display names only   F12=Cancel
```

On this display, all PFD definitions which you specified to be deleted are listed for confirmation. Press the Enter key to confirm your choices for deletion; then these PFD definitions are deleted. If you do not want to delete these PFD definitions, press F12 to return to the previous display to change your choices.

The following table explains the Confirm Delete of PFD Definition display.

Field Name	Description
File	The name of the PFD definition file in which the PFD definition resides is shown.
Library	Shows the name of the library containing the PFD definition file with the PFD definition you chose to delete.
Opt	The *Opt* column showing the delete option that causes the confirmation display to be shown. For this display, the option number is always 4.
PFD Definition	Shows a list of all PFD definitions you chose to delete.
Text	Shows the text description of the PFD definition.
Changed	The latest date you changed the PFD definition is shown.

The PFD definitions you previously chose to delete (option 4), are listed. Confirm the list and press the Enter key to delete these definitions or press the F12 key to return to change your choice on the Work with PFD definitions display on page 139.

When the PFD definitions are deleted, the screen returns to the Work with PFD definitions display with a message in the 24th line. When two or more definitions are deleted, a message is sent for each definition and a plus (+) sign appears in the rightmost column of the 24th line to indicate that more messages are sent from the system. They are displayed one after another by pressing the roll-up key after moving the cursor to the 24th line.

6=Print PFD Definition

To print a PFD definition, do the following on the display on page 139.

1. Type 6 in the *Opt* column beside the PFD definition which you want to print.
2. Press the Enter key.

The specified PFD definition will be printed, and the screen will return to the display on page 139.

7=Rename PFD Definition

To rename a PFD definition, do the following on the display on page 139.

1. Type 7 in the *Opt* column beside the PFD definition for which you want to change the name.
2. Press the Enter key.

The Rename Member display appears. Type the new name of the PFD definition in the *New member* prompt and press the Enter key.

9=Print Database File

To start printing a database file, do the following on the display on page 139.

1. Type 9 in the *Opt* column beside the PFD definition which you use to print.
2. Press the Enter key.

The display on page 208 appears.

Chapter 11. Work with PFD Definition Files

This chapter provides additional information for working with PFD definition file.

You can select any of the following options from this display.

- Creating PFD definition file
- Changing PFD definition file description
- Copying PFD definition file
- Deleting PFD definition file
- Renaming PFD definition file
- Displaying PFD definition file description
- Starting work with PFD definitions

Select 12 (Work with PFD definition files) on the AFP utilities menu on 135, and press Enter. The following display appears:

```
                        Work with PFD Definition Files

Type choices, press Enter.

  Library  . . . . . .   PFULIB      Name, *USRLIBL, *LIBL
                                     *CURLIB, *ALLUSR, *ALL
  File . . . . . .       *ALL        Name, generic*, *ALL

Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F12=Cancel
```

Use this display to select the PFD definition files you want to list and work with. You can use the *Library* and *File* prompts to specify subset criteria. When you press Enter, the Work with PFD Definition Files display appears. The following table explains each field on this display.

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Field Name	Description
Library	Specifies the library that contains PFD definition files you want to list and work with. Choose from the following: **library name** Specifies the name of the library that contains the PFD definition files you want to work with. ***USRLIBL** Only libraries in the user portion of the job's library list are searched. ***LIBL** All the libraries in the user and system portions of the job's library list are searched. **Note:** This value may cause a long response time until the Work with PFD Definition Files display appears. ***CURLIB** The current library for the job is searched. If no current entry exists in the library list, QGPL is used. ***ALLUSR** All "user-defined" libraries are searched. "User-defined" libraries include library QGPL, but exclude all other libraries with names that begin with the letter "Q". **Note:** This value may cause a long response time until the Work with PFD Definition Files display appears. ***ALL** All libraries in the system, including QSYS, are searched. **Note:** This value may cause a long response time until the Work with PFD Definition Files display appears.
File	Specifies that you want to work with all PFD definition files in the library or a subset of PFD definition files in the library. Choose from the following: **PFD definition file name** Specifies a PFD definition file name for a display with only that PFD definition name in the list. **generic name** Specifies a partial name of the PFD definition file name qualified by an asterisk (*) to display a specific subset of PFD definition files. The generic name is the following format: **ABC*** Display a list of all PFD definition files that begin with the characters ABC. For example, ABC, ABCD, or ABCTEST. ***ALL** Specifies *ALL to display all the PFD definitions in the specified library.

Press Enter after specifying the above fields. The following display appears.

```
                        Work with PFD Definition Files

Library . . . . . .   PFULIB      Name, *USRLIBL, *LIBL, *CURLIB...
File  . . . . . .     *ALL        Name, generic*, *ALL
Position to . . . . .             Starting characters

Type options, press Enter.
  1=Create   2=Change   3=Copy   4=Delete   7=Rename   8=Display description
  12=Work with PFD definitions

Opt  File        Library     Text                           Changed
__   _________   _________
__   PFUFILE     PFULIB      PFD file for exercise          12/13/90




                                                                      Bottom
Parameters or command
===> ____________________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

Use the Work with PFD Definition Files display to can create, change, copy, delete, rename, display a description of a PFD definition file, or to start working with PFD definitions in a PFD definition file.

Note: To create a PFD definition file, you need a library in which the PFD definition file will reside. If you do not have any libraries, you can create a library by entering the Create library (CRTLIB) command on a command line on any display.

This display gives the user the ability to specify the name of the PFD definition file (in the *File* prompt) that you want to list and work with, along with the name of the library name (in the *Library* prompt) to locate the file.

Note: If the values in either or both of the *Library* or *File* prompts are changed, it is necessary to press Enter before the user can specify options in the *Opt* column.

The following tables explain each field of the Work with PFD Definition Files display.

Prompts

Prompt	Description
Library	Specifies the library that contains PFD definition files you want to list and work with. Choose from the following: **library name** Specifies the name of the library that contains the PFD definition files you want to work with. ***USRLIBL** Only libraries in the user portion of the job's library list are searched. ***LIBL** All the libraries in the user and system portions of the job's library list are searched. **Note:** This value may cause a long response time until the Work with PFD Definition Files display appears. ***CURLIB** Current library for the job is searched. If no current entry exist in the library list, QGPL is used. ***ALLUSR** All "user-defined" libraries are searched. "User-defined" libraries include library QGPL, but exclude all other libraries with names that begin with the letter "Q". **Note:** This value may cause a long response time until the Work with PFD Definition Files display appears. ***ALL** All libraries in the system, including QSYS, are searched. **Note:** This value may cause a long response time until the Work with PFD Definition Files display appears.
File	Specifies that you want to work with all PFD definition files in the library or a subset of PFD definition files in the library. Choose from the following: **PFD definition file name** Specifies a PFD definition file name for a display with only that PFD definition name in the list. **generic name** Specifies a partial name of the PFD definition file name qualified by an asterisk (*) to display a specific subset of PFD definition files. The generic name is the following format: **ABC*** Display a list of all PFD definition files that begin with the characters ABC. For example, ABC, ABCD, or ABCTEST. ***ALL** Specifies *ALL to display all the PFD definitions in the specified library.
Position to	This prompt is used for quick repositioning of the list, not for creating a subset of the list. Choose one of the following: ***TOP** To go to the top of the list. ***BOT** To go to the bottom of the list. **name or partial name** Specifies the name or partial name you want to go to in the list. The list is positioned to the first name beginning with the string specified.

Options

Option	Description
1=Create	Creates a PFD definition file. Type 1 in the *Opt* column, and the name of the PFD definition file and library you want to create in the first line in the list. The Work with PFD Definitions display appears after the PFD definition file is created so that you can create PFD definitions in the PFD definition file. **Note:** To create a PFD definition file, you need a library in which the PFD definition file will reside. If you do not have any libraries, you can create a library by entering the Create library (CRTLIB) command on a command line on any display.
2=Change	Changes the description text of a PFD definition file. Type 2 in the *Opt* column beside the name of the PFD definition file for which you want to change its description.
3=Copy	Copies a PFD definition file to a new PFD definition file. Type 3 in the *Opt* column beside the name of the PFD definition file you want to copy. When the PFD definition file is copied, all PFD definitions in the file are also copied.
4=Delete	Deletes a PFD definition file. Type 4 in the *Opt* column beside the name of the PFD definition file you want to delete. You can confirm the choices on the next display before deleting them. When the PFD definition file is deleted, all PFD definitions in the file are also deleted.
7=Rename	Renames a PFD definition file. Type 7 in the *Opt* column beside the name of the PFD definition file you want to rename.
8=Display description	Displays the description of a PFD definition file. Type 8 in the *Opt* column beside the name of the PFD definition file for which you want to display its description.
12=Work with PFD definitions	Starts working with PFD definitions in a PFD definition file. Type 12 in the *Opt* column beside the name of the PFD definition file which contains PFD definitions you want to work with.

Columns

Column	Description
Opt	Specifies the number of the task in the *Opt* field beside the PFD definition file you want to perform the task with. You can type the same option next to more than one PFD definition file at a time, and you can also type different options next to different PFD definition files at the same time.
File	Shows a list of all the PFD definition files in the specified library or library list that meet the subset criteria. You can use the top position in the list to type a PFD definition file you want to create or select another option. **Note:** If a file meets the following four conditions, it is shown on the Work with PFD Definition Files display as a PFD definition file even if it is not created as a PFD definition file. • The file is a physical file • The file is not a source file • The file is not a DDM file • The record length is 80 It is recommended to use the files you created using the Print Format Utility.

Column	Description
Library	The name of the library in which the PFD definition file resides is shown.
Text	The text description of the PFD definition file is shown.
Changed	The latest date you changed a PFD definition in the PFD definition file or you changed the description text of the PFD definition file is shown.

Showing a PFD Definition File List

The PFD definition files can be listed on the lower part of the display by specifying the *Library* field and *File* field. When you want to change the content of the list, specify the name of the file and library. You can page up or down the list on the display by specifying the starting characters in the *Position to* prompt.

Note: When you specify any of the *PFD Definition file* field and *Library* field, you can **not** specify the *Opt* column.

Selecting a PFD Definition File from a List

The list on the display contains the names of all or a specified subset of PFD definition files that exist in the library (or libraries) indicated by the *Library* field. (However, only the PFD definition files and libraries for which you have the necessary authority are shown.) The text that describes the PFD definition files and the date the file was last changed are also shown in the list.

When a list is shown, a one-word indicator always appears below and to the right of the list to inidcate the position in the list. **More...** means that there are more items after the item currently shown. **Bottom** means that the end of the list has been reached.

Use the Page or Roll keys to move forward or backward through the list.

If you are creating a PFD definition file, you can check this list to see what names are already used before you choose a new name. You can create a PFD definition file by typing 1, a PFD definition file name, and a library name in the first list position, and you can select other PFD definition files from the list using any of the options except 1 (Create).

Therefore, you can select one or more names by doing one or both of the following:

- In the *Opt* column beside the PFD definition file name in the list that you want to use, type the number of option (task) to be used.
- In only the first (top) position of the list, type an option number (for the task), a PFD definition file name and a library name in the *Opt*, *File*, and *Library* columns respectively.

1=Create PFD Definition File

Before you create a PFD definition, you must create a PFD definition file. To create a PFD definition file, do the following on the Work with PFD Definition Files display on page 197.

1. Type 1 in the *Opt* column in the first line of the list.
2. Type the name of the new PFD definition file in the *File* prompt in the first line of the list.
3. Type the name of the library where the PFD definition file resides in the *Library* prompt in the first line of the list.
4. Press Enter.

The following display appears:

```
                          Create PFD Definition File

 File . . . . . . . . . . . . :   PFD2
   Library  . . . . . . . . . :     PFULIB

 Type choices, press Enter.

   User specified DBCS data . .   N              Y=Yes, N=No
   Text 'description' . . . . .   File for product label
____
   Authority  . . . . . . . . .   *LIBCRTAUT     Name, *LIBCRTAUT, *ALL
                                                 *CHANGE, *EXCLUDE, *USE









 F3=Exit   F5=Refresh   F12=Cancel
```

Using the Create PFD Definition File display, you can create a PFD definition file from the information specified on this display.

The Work with PFD Definitions display appears after the PFD definition file is created, so that you can create PFD definitions in the PFD definition file.

Field Name	Description
File	Shows the name of the PFD definition file you are going to create.
Library	Shows the name of the library in which the PFD definition file is created.
User specified DBCS Data	This prompt is displayed only when you are in the DBCS system. It specifies N (No) or Y (Yes) in this prompt to specify whether DBCS (Double-Byte Character Set) data is used in the text data of PFD definitions in the PFD definition file or not.

Field Name	Description
Text 'description'	Specifies a short description of the PFD definition file in this prompt. This description is saved with the PFD definition file and displayed when the PFD definition files are listed to help you identify the PFD definition files. For example, type a short description of your PFD definition file, such as: `Practice PFD definition file.`
Authority	Specifies the authority you are giving the users who do not have specific authority to the file, who are not on the authorization list, and whose users' group has no specific authority to the file. The possible values are: ***LIBCRTAUT** The system determines the authority for the file by using the value specified on the *Create authority* prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the file to be created. If the value specified on the *Create authority* prompt (CRTAUT parameter) is changed, the new value will not affect any existing files. ***ALL** The user can control the file's existence, specify the security for the file, change the file, change the owner for the file, and perform basic functions on the file. ALL authority allows the user to perform all operations on the file except those limited to the owner or controlled by authorization list management rights. ***CHANGE** The user can change the file and perform basic functions on the file. CHANGE authority allows the user to perform all operations on the file except those limited to the owner or controlled by object existence authority and object management authority. CHANGE authority provides object operational authority and all data authority. ***EXCLUDE** EXCLUDE authority prevents the user from accessing the file. ***USE** The user can perform basic operations on the file, such as read a file. The user is prevented from changing the file. USE authority provides object operational authority and read authority. **authorization-list-name** Specify the name of an authorization list. Users included on the authorization list are granted authority to the file as specified by the list. The authorization list must exist when the file is created.

When you press Enter, the PFD definition file will be created with the description that you gave it, and the screen will return to the Work with PFD Definition Files display on page 197.

2=Change PFD Definition File

To change the description of a PFD definition file, do the following on the Work with PFD Definition Files display on page 197.

1. Type 2 in the *Opt* column beside the PFD definition file you want to change.
2. Press Enter.

The following display appears:

```
                          Change PFD Definition File

 File . . . . . . . . . . . :   PFUFILE
   Library  . . . . . . . . :     PFULIB

 Type choices, press Enter.

   Text 'description' . . . .   PFD file for exercise
_


 F3=Exit    F5=Refresh    F12=Cancel
```

Using the Change PFD Definition File display, you can change the description text of a PFD definition file.

Field Name	Description
File	Shows the name of the PFD definition file you are going to change.
Library	Shows the name of the library in which the PFD definition file resides.
Text 'description'	Specifies the User-defined text that briefly describes the file and its function. The text specified here replaces any previous text.

When you press Enter, the description will be changed. When the change of description is completed, the screen returns to the Work with PFD Definition Files display on page 197.

3=Copy PFD Definition File

To copy a PFD definition file, do the following on the Work with PFD Definition Files display on page 197.

1. Type 3 in the *Opt* column beside the PFD definition file you want to copy.
2. Press Enter.

The following display appears:

```
                          Copy PFD Definition File

From file  . . . . . . . . . :   PFUFILE
  Library  . . . . . . . . . :     PFULIB
Text . . . . . . . . . . . . :   PFD file for exercise


Type choices, press Enter.

  To file  . . . . . . . . . .   PFUFILE2     Name
    Library  . . . . . . . . .     PFULIB     Name, *CURLIB
  Text 'description' . . . . .   PFD file for exercise
___

F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F12=Cancel
```

Using the Copy PFD Definition File display, you can copy a PFD definition file to a new PFD definition file. The entire set of PFD definitions will be copied to the new file.

Field Name	Description
From file	Shows the name of the PFD definition file you are going to copy from.
Library	Shows the name of the library in which the PFD definition file resides.
Text	Shows the text description of the PFD definition file being copied.
To file	Specifies the new PFD definition file you are going to copy to. This prompt has the same file name as the from file name. Leave the default if you want to copy the file to a different library with the same file name.
Library	Specifies the library you are going to copy the PFD definition file to. This prompt has the same library name as the from library name. Leave the default if you want to copy the file to a different file in the same library. The possible values in this field are: ***CURLIB** The current library for the job is used to store the copied file. **name** The specified library name is used to store the copied file.
Text 'description'	Specify a short description of the PFD definition file in this prompt or leave the default if you want to copy the file with the same file description as the from file description. This description is saved with the PFD definition file and displayed when the PFD definition files are listed to help you identify the PFD definition files.

When you press Enter, the file is copied. When the copy is completed, the screen returns to the Work with PFD Definition Files display on page 197.

4=Delete PFD Definition File

To delete a PFD definition file, do the following on the Work with PFD Definition Files display on page 197.

1. Type 4 in the *Opt* column beside the PFD definition file you want to delete.
2. Press Enter.

The following display appears:

```
                    Confirm Delete of PFD Definition Files

Press Enter to confirm your choices for 4=Delete.
Press F12 to return to change your choices.

Opt  File        Library     Text                           Changed
 4   PFD2        PFULIB      File for product label         12/13/90

                                                                    Bottom
F11=Display names only   F12=Cancel
```

Using the Confirm Delete of PFD Definition Files display, you can confirm that you want to delete the files you chose by selecting option 4 (Delete) on the Work with PFD Definition Files display.

Note: You can delete only the PFD definition files for which you have the authority to do so. If you do not have *OBJOPR and *OBJEXIST authority for a PFD definition file, that PFD definition file is not deleted.

You should use the displayed list of names to verify that you do want to delete all of the PFD definition files shown. If all of them **are** to be deleted, press Enter to delete them. If any of them should **not** be deleted, press F12 (Cancel). If you press F12, you return to the Work with PFD Definition Files display with all selections still shown, and you can remove 4 from the column beside the PFD definition file you do not want to delete.

Field Name	Description
Opt	The option field shows the delete option which causes the confirmation display to be shown. For this display, the option number is always 4.
File	Shows a list of all PFD definition files you chose to delete.

Field Name	Description
Library	Shows the name of the library in which the PFD definition file resides.
Text	Shows the text description of the PFD definition file.
Changed	The latest date you changed a PFD definition in the PFD definition file or you changed the description text of the PFD definition file is shown.

The PFD definition files you previously chose to delete (option 4), are listed. Confirm the list and press Enter to delete these files or press the F12 key to return to change your choice(s) on the Work with PFD Definition Files display on page 197.

When the files are deleted, the screen returns to the Work with PFD definition files with a message in the 24th line. When two or more files are deleted, a message is sent for each file, and a plus (+) sign appears in the rightmost column of the 24th line to indicate that more messages are sent from the system. They will be displayed one after another by pressing the Page-down key after moving the cursor to the 24th line.

7=Rename PFD Definition File

To rename a PFD definition file, do the following on the Work with PFD Definition Files display:

1. Type 7 in the *Opt* column beside the PFD definition file you want to rename.
2. Press Enter.

The Rename Object display appears. Type the new name of the PFD definition file in the *New object* prompt.

8=Display Description of PFD Definition File

To display the description of the PFD definition file, do the following on the Work with PFD Definition Files display:

1. Type 8 in the *Opt* column beside the PFD definition file for which you want to display the description.
2. Press Enter.

The display object description (DSPOBJD) command is called and the description of the PFD definition file is displayed.

12=Work with PFD Definitions

To go to the Work with PFD Definitions display, do the following on the Work with PFD Definition Files display on pagepage 197.

1. Type 12 in the *Opt* column beside the PFD definition file that contains the PFD definitions you want to work with.
2. Press Enter.

The Work with PFD Definitions display appears.

See Chapter 10, “Work with PFD Definitions” on page 139 for more information.

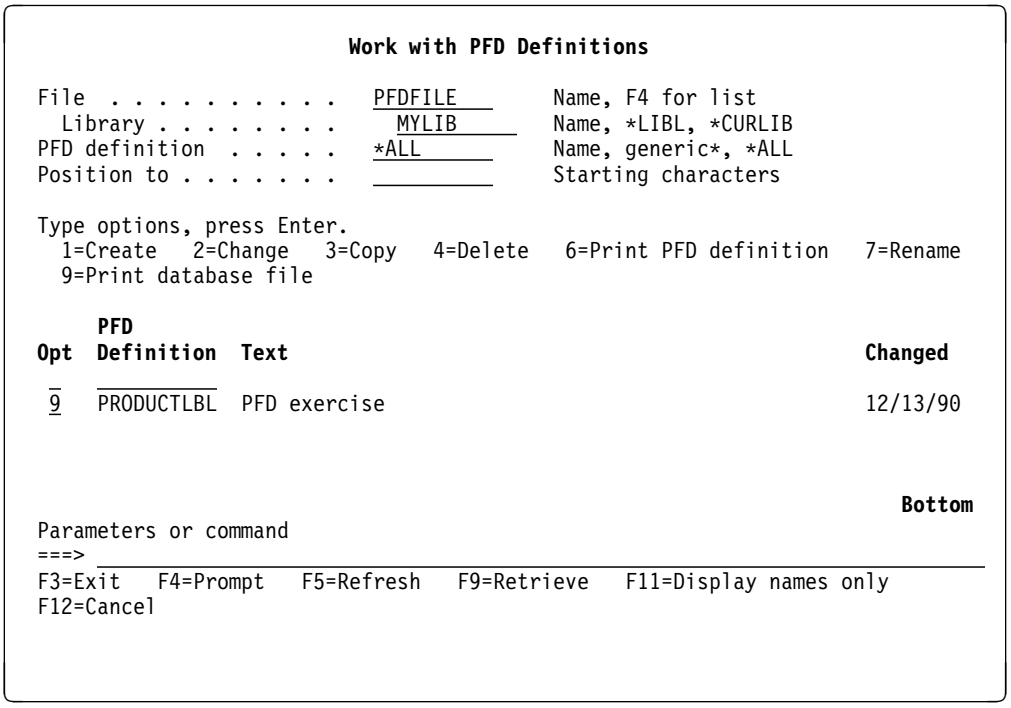
Chapter 12. Print Database File Member

Once you have designed your Print Format Utility application, you can run the application using any of the three following methods:

- By selecting Print database file from the Work with PFD Definitions display. To get to the Work with PFD Definitions display, use the STRPFU command or STRAFPU option 11.
- By selecting Print database file member from the APFU menu.
- By running the **PRTPFDDTA** command.

Start Printing from Work with PFD Definitions Display

To start printing database file members from the Work with PFD Definitions display, type 9 in the *Opt* column beside the PFD definition you want to use to print a database file member and then press the Enter key.


Work with PFD Definitions
File . . . . . PFDFILE Name, F4 for list
Library . . . . . MYLIB Name, *LIBL, *CURLIB
PFD definition . . . . . *ALL Name, generic*, *ALL
Position to . . . . . Starting characters
Type options, press Enter.
1=Create 2=Change 3=Copy 4=Delete 6=Print PFD definition 7=Rename
9=Print database file
Opt PFD Definition Text Changed
9 PRODUCTLBL PFD exercise 12/13/90
Bottom
Parameters or command
===>
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F11=Display names only
F12=Cancel

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The Print Database File Member display appears:

```
                          Print Database File Member

  File . . . . . :   PFDFILE
    Library  . . . . . :     MYLIB
  PFD definition . . . . . :   PRODUCTLBL

Type choices, press Enter.

  Database file  . . . . . .   *PFD        Name, *PFD, F4 for list
    Library  . . . . . . . .     *LIBL     Name, *LIBL, *CURLIB
  Member . . . . . . . . . .   *FIRST      Name, *FIRST, F4 for list

  Include grid . . . . . .     N           Y=Yes, N=No
  Record selection . . . . .   Y           Y=Yes, N=No
  Ending page  . . . . . .     *END        1-9999, *END
  Source drawer  . . . . . .   *PFD        1-255, *PFD, *E1
  Output bin . . . . . . . .   *DEVD       1-65535, *DEVD
  Copies . . . . . . . . . .   *PFD        1-255, *PFD
  Output queue . . . . . .     *JOB        Name, *JOB
    Library  . . . . . . . .               Name, *LIBL, *CURLIB

                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

```
                          Print Database File Member

  File . . . . . :   PFDFILE
    Library  . . . . . :     MYLIB
  PFD definition . . . . . :   PRODUCTLBL

Type choices, press Enter.

Form definition  . . . . . .   *PFD        Name, *PFD, *DEVD, *INLINE
  Library  . . . . . . . . .     *LIBL     Name, *LIBL, *CURLIB









                                                                  Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

From this display, you can specify how to print a database file member. You can specify:

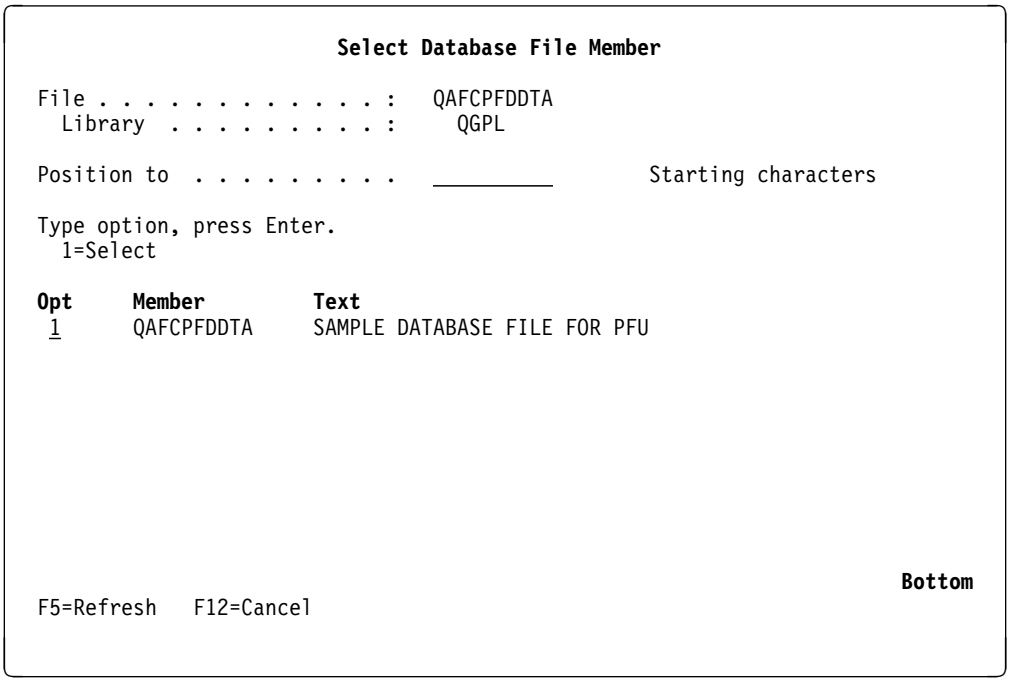
- Which database file to print
- Whether you use record selection
- When you end printing at a certain page
- Which output queue to use
- How many copies to print

The following table describes the Print Database File Member display.

Field Name	Description
File	Shows the PFD definition file to use to print a database file.
Library	Shows the library in which the PFD definition file that contains the PFD definition is located.
PFD definition	Shows the PFD definition name.
Database file	Specifies the name of the database file which contains the member to be printed. To list all database files in the library that is specified on the *Library* prompt, move the cursor to this prompt and press F4. If you use the database file specified in the PFD definition, specify *PFD.
Library	Specifies the library that contains the database file. You can choose from the following: **Library name** Specifies the name of the library that contains the database file. ***LIBL** All the libraries in the user and system portions of the job's library list are searched. ***CURLIB** Current library for the job is searched. If no current entry exist in the library list, library QGPL is used.
Member	Specifies the database file member name. If you specify *FIRST, the first member in the database file is printed. To list all members in the file that is specified on the *Database file* prompt, move the cursor to this prompt and press F4.
Include grid	Specify one of the following: **Y (Yes)** Prints the database file member with the grid that you specified on the Define PFD Specifications display. **N (No)** Prints the database file member without the grid. The grid is printed to help you to design the printout.
Record selection	Specify one of the following: **N (No)** All records in the database file member are selected whether or not record selection was specified in the PFD definition. **Y (Yes)** Records are selected according to the selection condition if the record selection condition is specified in the PFD definition. All records are selected if no selection condition is specified in the PFD definition.
Ending page	Specifies the number of the page to stop printing. ***END** the Print Format Utility prints all selected records. **n** the Print Format Utility ends printing after page n is printed. The value can be from 1 to 9999. This is useful when you check your printout design by printing the first few pages as a test.
Source drawer	Specifies the source drawer used when single-cut sheets are fed into the printer. The possible values are: ***PFD** The value specified in the printout specification is used. *PFD is the default. ***E1** Envelopes are fed from the envelope drawer on the sheet-feed paper handler. ***CUT** For printers with manual feed, cut sheets are fed manually through the manual feeder. **source-drawer** Specify the drawer from which the paper is fed. Valid values range from 1 through 255. For printers with manual feed, specifying 100 is the same as specifying *CUT.

Field Name	Description
Output bin	Specifies the destination of the output on printers capable of multiple output bins. The possible values are: ***DEVD** The value specified in the Device description is used. *DEVD is the default. **output-bin** Specify the output bin for the destination of the output. Valid values range from 1 through 65535.
Copies	Specifies the number of copies to be printed. ***PFD** The value that is specified in *the Printout specifications* is used. **n** You can specify 1 to 255.
Output queue	Specifies the output queue to put the spooled file that the Print Format Utility created.
Library	Specifies the library to locate the output queue. The possible library values are: ***LIBL** The library list is used to locate the output queue. ***CURLIB** The current library for the job is used to locate the output queue. If no library is specified as the current library for the job, QGPL is used. **library-name** Specify the library where the output queue resides.
Form definition	Specifies the form definition to be used when printing the spooled file created by the Print Format Utility. The possible values are: ***DEVD** Specifies that the form definition specified in the device description should be used. ***INLINE** Specifies that the Print Format Utility should create an inline form definition to be used when printing the data. See the form definition help text for additional information. **Form definition name** Specify the name of the form definition.
Library	The possible values for library are: ***LIBL** The library list is used to locate the form definition. ***CURLIB** The current library for the job is used to locate the form definition. If no library is specified as the current library for the job, library QGPL is used. **Name** Specify the name of the library where the form definition is located.

You can choose a database file and a member from the list. For example, move the cursor to the *member* prompt and press F4. The Select Database File Member display appears:


Select Database File Member
File . . . . . : QAFCPFDDTA
Library . . . . . : QGPL
Position to . . . . . Starting characters
Type option, press Enter.
1=Select
Opt Member Text
1 QAFCPFDDTA SAMPLE DATABASE FILE FOR PFU
Bottom
F5=Refresh F12=Cancel

The database file members that are contained in the database file you specified on the previous display are listed. You can page up the list of database file members by specifying the starting characters of the name of the database file member in the *Position to* prompt.

The following table explains the Select Database File Member display.

Field Name	Description
File	Shows the database file which you specified on the previous display.
Library	Shows the name of the library in which the physical file resides.
Position to	This prompt is used for quick repositioning of the list, not for creating a subset of the list. Choose one of the following: ***TOP** To go to the top of the list. ***BOT** To go to the bottom of the list. **name or partial name** Specify the name or partial name you want to go to in the list. The list is positioned to the first name beginning with the string specified.
Opt	Type a 1 in the *Opt* column beside the member you want to select.
Member	Shows the names of members which are contained in the database file you specified.
Text	Shows the description text of the members which are contained in the database file you specified.

Select a member by typing 1 in the *Opt* column of the member and press Enter.

The Print Database File Member display appears.

```
                        Print Database File Member

  File . . . . . :   PFDFILE
    Library  . . . . . :     MYLIB
  PFD definition . . . . . :   PRODUCTLBL

Type choices, press Enter.

  Database file  . . . . . .   QAFCPFDDTA     Name, *PFD, F4 for list
    Library  . . . . . .         QGPL         Name, *LIBL, *CURLIB
  Member . . . . . .           QAFCPFDDTA     Name, *FIRST, F4 for list

  Include grid . . . . . .     N              Y=Yes, N=No
  Record selection . . . . .   Y              Y=Yes, N=No
  Ending page  . . . . . .     *END           1-9999, *END
  Source Drawer  . . . . . .   *PFD           1-255, *PFD, *E1
  Output bin . . . . . .       *DEVD          1-65535, *DEVD
  Copies . . . . . .           *PFD           1-255, *PFD
  Output queue . . . . . .     *JOB           Name, *JOB
    Library  . . . . . .                      Name, *LIBL, *CURLIB

                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

If you are ready to print the database file, press Enter. The Print Format Utility starts to print the database file member.

When printing completes, the screen returns to the Work with PFD Definitions display with either a completion message or an error message displayed depending on what happened during printing. The errors detected by the Print Format Utility, such as 'Fields used in the PFD definition are not found in the database file' are printed in the printout listing that is created by the Print Format Utility.

You can exit from the Work with PFD Definitions display by pressing the F3 key.

Start Printing from the AFP Utilities Menu

To start printing, type 13 at the command line on the AFP Utilities menu.

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> 13
_____________________________________________________________________________
F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F16=System main menu
```

The Print Database File Member display appears:

```
                          Print Database File Member

Type choices, press Enter.

  File . . . . . .  _________    Name, F4 for list
    Library  . . . .   MYLIB      Name, *LIBL, *CURLIB
  PFD definition . . .  _________  Name, *FIRST, F4 for list

  Database file  . . .  QAFCPFDDTA  Name, *PFD, F4 for list
    Library  . . . .    QGPL       Name, *LIBL, *CURLIB
  Member . . . . . .  QAFCPFDDTA   Name, *FIRST, F4 for list

  Include grid . . . .  N           Y=Yes, N=No
  Record selection . .  N           Y=Yes, N=No
  Ending page  . . . .  *END         1-9999, *END
  Source drawer  . . .  *PFD        1-255, *PFD, *E1
  Output bin . . . . .  *DEVD       1-65535, *DEVD
  Copies . . . . . .  *PFD          1-255, *PFD
  Output queue . . . .  *JOB        Name, *JOB
    Library  . . . .    __________   Name, *LIBL, *CURLIB


                                                                    More...
F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel
```

You can show the list of PFD definition files in the specified library. Move the cursor to the *File* prompt, and press the F4 key.

The Select PFD Definition File display appears:

```
                        Select PFD Definition File

Library  . . . . . :   MYLIB

Position to  . . . . . .   __________      Starting characters

Type option, press Enter.
  1=Select

Opt     File           Text
 1      PFDFILE        PFD file for exercise

                                                                      Bottom
F5=Refresh   F12=Cancel
```

You can also show the list of PFD definitions in the specified PFD definition file. Move the cursor to the *PFD definition* prompt on the Print Database File Member display, and press the F4 key.

The Select PFD Definition display appears:

```
                          Select PFD Definition

File . . . . . :   PFDFILE
  Library  . . . . . :     MYLIB

Position to  . . . . . .   __________     Starting characters

Type option, press Enter.
  1=Select

        PFD
Opt     Definition     Text
 1      PRODUCTLBL     PFD exercise

                                                                      Bottom
F5=Refresh   F12=Cancel
```

See page 208 through 212 for more information.

When printing completes, the screen returns to the AFP Utilities menu with either a completion message or an error message which is displayed in the 24th line of the display depending on what happened during printing.

Start Printing by PRTPFDDTA

To start printing with command **PRTPFDDTA** (print a database file member) from the AS/400 main menu or Command Entry screen, type PRTPFDDTA at the command line on the display and press the F4 key. This command allows you to print using a PFD with a batch job or submit the print job from a CL program.

```
MAIN                              AS/400 Main Menu
                                                          System:   SYSTNAME
Select one of the following:

     1. User tasks
     2. Office tasks
     3. General system tasks
     4. Files, libraries, and folders
     5. Programming
     6. Communications
     7. Define or change the system
     8. Problem handling
     9. Display a menu
    10. Information Assistant options
    11. Client Access/400 tasks

    90. Sign off


Selection or command
===> PRTPFDDTA
_____________________________________________________________________________
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=Information Assistant
F23=Set initial menu
```

The following command prompt appears:

```
                          Print PFD Data (PRTPFDDTA)

Type choices, press Enter.

PFD file . . . . . .  _________   NAME
  Library  . . . . . .  *LIBL      NAME, *LIBL, *CURLIB
PFD definition . . . . .  *FIRST   NAME, *FIRST
Database file  . . . . .  *PFD     NAME, *PFD
  Library  . . . . . .  _________  NAME, *LIBL, *CURLIB
Member . . . . . .  *FIRST        NAME, *FIRST
Include grid . . . . . .  *NO     *YES, *NO
Record selection . . . . . .  *YES  *YES, *NO
Ending page  . . . . . .  *END     1-9999, *END
Source drawer  . . . . . .  *PFD  1-255, *PFD, *E1
Output bin . . . . . .  *DEVD     1-65535, *DEVD
Copies . . . . . .  *PFD          1-255, *PFD
Output queue . . . . . .  *JOB    NAME, *JOB
  Library  . . . . . .  _________  NAME, *LIBL, *CURLIB
Form definition  . . . . . .  *PFD  NAME, *PFD, *DEVD, *INLINE
  Library  . . . . . .  _________  NAME, *LIBL, *CURLIB
                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

See page 208 through 212 for more information.

When printing completes, the screen returns to the previous display with either a completion message or an error message displayed in the 24th line of the display depending on what happened during printing.

Design Operation and Fonts

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Chapter 13. Design Operation

This chapter describes the following information about the design operation of a source overlay, a record layout, or a page layout.

- The element types that you can define in an overlay, a record layout, or a page layout
- How you define the elements
- What you can define with the elements

Element Types

You can define six elements types in a source overlay, a record layout, and a page layout. In a page layout, you can also place a record layout as an element.

Text

Text that is specified in an overlay, such as ABCDE, is called a text element. It can be placed at any specified position on the overlay. Text attributes may also be specified to describe text characteristics such as font selection, format, and highlighting by underline, overstrike, and/or color.

Line

A line element is any straight line that connects two points either vertically or horizontally. You can select the type of line, such as dotted, dashed, or solid, and line width.

Box

A box element is a rectangle that is defined by two diagonally opposite corners. It can be placed anywhere on the overlay. You can select the shade pattern inside the box, the type of box line, either dotted, dashed, or solid, and line width. You may define text inside the box. Optionally, the text may be justified inside the box.

Bar Code

A bar code element is a set of bars and spaces of various widths created from data by IPDS printers or the AFP Utilities for AS/400. It can be placed at any specified position on the overlay. You can specify the following: bar code data; position to be placed; type of bar code; and optional attributes such as size, color, whether or not to print a human-readable interpretation (HRI), or whether or not to include a check digit.

Page Segment

A page segment is an image in the AFP resource library. When you want to place a page segment in an overlay, you must create the page segment using the Resource Management Utility or the CRTPAGSEG command. You can refer to this page segment by its name and specify a print position to define it as an element. You can include the same page segment repeatedly in an overlay, a page layout, and a record layout.

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Graphics

You can include graphics data (GDF format) that resides in a physical file member or a PC document in a folder. You can refer to the graphics element by its file name and member name or by its folder and document name and specify a print position and the size to define it by two diagonally opposite corners as an element.

Record Layout

A record layout is a function of a PFD definition. You can define the above elements in a record using the Print Format Utility and can treat the set of these elements as one record layout. In a page layout, a record layout is defined as an element.

Defining Elements on the Design Display

You can define elements on the following three displays:

- The Design Overlay display

  This display allows you to design an overlay that contains text elements, line elements, box elements, bar code elements, page segments, and graphics elements.

  To go to the Design Overlay display, do the following:

  1. On any display with a command line, type `STRAFPU` and press Enter.
  2. On the Advanced Function Printing Utilities menu, select option 1 (Work with source overlays) and press Enter.
  3. The Work with Source Overlays display shows the list of source overlays in a source overlay file. If you want to use another source overlay file or library, type the name for the *Library* prompt and the *File* prompt in the upper part of the display, and press Enter.
  4. On the Work with Source Overlays display, do one of the following:
     - To create a new source overlay, type `1` (Create) in the *Opt* column and a new source overlay name in the *Source overlay* column on the first line in the list and press Enter to create a new source overlay.
     - To change an existing source overlay, type `2` (Change) in the *Opt* column and a source overlay name for the *Source overlay* column in the first line in the list or type `2` in the *Opt* column beside the source overlay you want to change in the list, and press Enter.
  5. On the Create Source Overlays display or Change Source Overlay display, type `1` (Select) beside the *Design Overlay* option in the action list, and press Enter.
  6. The Design Overlay display appears.

- The Design Record Layout display

  This display allows you to design a record layout which is a function of a PFD definition. The record layout contains text elements, line elements, box elements, bar code elements, page segments, and graphics elements. The text elements, box elements, bar code elements, page segments, and graphics can be fixed data or variable data (contain field names from a database file).

- The Design Page Layout display

  This display allows you to design a page layout which is a function of a PFD definition. The page layout contains text elements, line elements, box

elements, bar code elements, page segments, graphics elements, and a record layout.

To go to the Design Record Layout display or the Design Page Layout display, do the following:

1. On any display with a command line, type `STRAFPU` and press Enter.
2. On the Advanced Function Printing Utilities menu, select option 11 (Work with PFD definitions) and press Enter.
3. The Work with PFD Definitions display shows the list of PFD definitions in a PFD definition file. If you want to use another PFD definition file or library, type the name for the *Library* prompt and the *File* prompt in the upper part of the display, and press Enter.
4. On the Work with PFD Definitions display, do one of the following:
   - To create a new PFD definition, type `1` (Create) in the *Opt* column and a new PFD definition name in the *PFD definition* column on the first line in the list to create a new PFD definition and press Enter.
   - To change an existing PFD definition, type `2` (Change) in the *Opt* column and a PFD definition name for the *PFD definition* column in the first line in the list or type `2` in the *Opt* column beside the PFD definition you want to change in the list and press Enter.
5. On the Create PFD Definitions display or Change PFD Definition display, type `1` (Select) beside the *Design Record Layout* or the *Design Page Layout* in the action list, and press Enter.
6. The Design Record Layout display or the Design Page Layout display appears.

Design Display

Two kinds of views of display are provided to design elements as follows:

- Screen view
- List view

Screen View

The screen view shows you an image that is similar to what will be printed. The printout image is shown in the upper part of the display called the *image area*. In the screen view, you can specify the position of an element by the cursor position in the image area. The design display is initially in the screen view. You can change it to the list view by pressing the F17 (Switch view) key.

See “Defining Elements in the Screen View” on page 222 for more information.

List View

In the list view, all element definitions are displayed in the order of the sequence number with one element in a line. The order in which the elements are displayed can be changed by sorting the list (F4=Sort) by the number (NBR), NAME, ACROSS, or DOWN fields. To sort the list, place the cursor on or under one of these field names and press F4. The intended use of the list view is to see the defined elements in a source overlay, a record layout, or a page layout and make minor modifications to the elements. You can easily find an element because you can see part of the definitions such as the bar code data and the page segment name that are not displayed on the image area in the screen view. You can change the display to the screen view by pressing the F17 (Switch view) key.

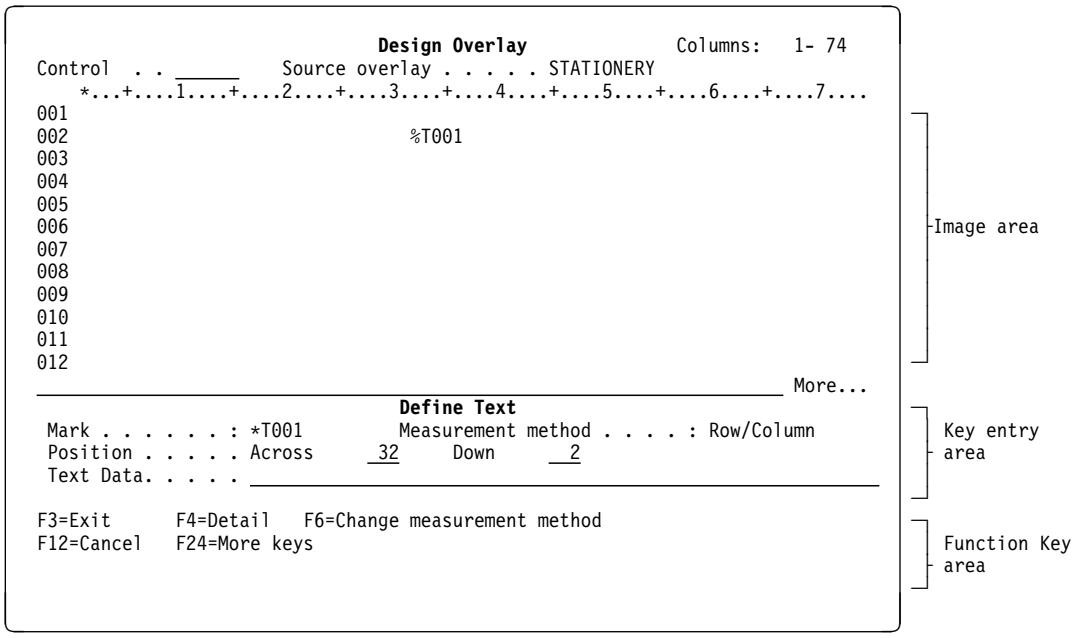
See “Changing Elements in the List View” on page 282 for more information.

Defining Elements in the Screen View

In the screen view, you can design an overlay, a record layout, or a page layout by entering the print image on the display. Because the print image is displayed on the character display, while the actual image is printed on the All Points Addressable (APA) printer, you can see only the approximate image of the overlay, the record layout, or the page layout on the display.

Layout of the Screen View

The screen view of the design display is shown:



The following table explains each field in the above display.

Field Name	Description
Columns	This field shows you the current image area that appears on the display. If the **More...** message appears at the right side of the bottom line of the image area, you may move from (scroll) this area to design another area.
Control	You may scroll the image area window by entering scrolling commands in this field and pressing the Enter key. When designing an overlay, you may also invoke the AFP Workbench Viewer by entering the *VIEW command to see a simulated printout of the overlay being designed. The AFP Workbench Viewer will not display bar codes created with the Bar Code Object Content Architecture (BCOCA).
Image area	The image area is the upper part of the display. It shows the approximate print image of an overlay, a record layout, or a page layout. You can see what kind of element has been entered and where in the image area it was entered.
Key entry area	The key entry area is the lower part of the display. This area is used to enter the parameters to define the elements. It appears only when you define or change an element.

Field Name	Description
Function key area	This area is used to show the function keys currently available.

Element Indication on Image Area - Element Mark

The element mark always begins with an asterisk (*) followed by an ID that identifies the element type, a three digit sequence number, and one blank character. Thus, the element mark is displayed in six characters.

Note: If you specify an element in a page layout to be printed only when a page break occurs, '>' is displayed after the sequence number instead of a blank character.

When you define an element in the image area on the display, you need to do the following:

1. Move the cursor to the position you want to place the element.
2. Press the appropriate function key to show the key entry area.
3. Confirm and change the data for the element in the key entry area.

   You can show the Define Element Detail display by pressing F4 (Detail).
4. Press Enter to define the element.

The function keys are assigned for elements as follows:

Function key	Element
F6	Text
F9	Line
F10	Box
F11	Bar code
F13 then F6	Graphics
F13 then F9	Page segment
F13 then F11	Record layout (in a page layout)

When you press one of the function keys listed above, you see `%Xnnn`, which is called an **element mark** at the cursor position. A `%` shows that the element is positioned, but not defined yet. An `X` is an element ID that shows which element is being defined. The element ID is shown as follows:

Element ID	Element
T	Text
L	Line
B	Box
C	Bar code
S	Page segment
G	Graphics
R	Record layout

When you have completed the element definition by entering parameters and pressing Enter, the `%` of the element mark changes to an asterisk (*).

The `nnn` is three digits of sequence number (001 through 999). The sequence number is assigned automatically by the Overlay Utility or Print Format Utility.

In addition to the element marks above, the Overlay Utility and the Print Format Utility allow you to assign a name to the element for your convenience. This name

appears on the image area to show the element position instead of the element mark assigned by the Overlay Utility and the Print Format Utility. The Overlay Utility and the Print Format Utility keep the system assigned mark for this element even if you have assigned a name for it. The Overlay Utility and the Print Format Utility do not use that system assigned mark for elements which have a user assigned name.

The element mark is changed to an asterisk followed by this element's name on the image area. For example, if you define a text element as the first element of an overlay and assign a name `ABCD`, the element mark `*T001` is changed to `*ABCD`.

To define or change an element name, press F4=Detail from either the Define or Change panels. Type the name you wish to assign to the element next to the element prompt.

If you erase the previously assigned name, the Overlay Utility and the Print Format Utility replace it by the system assigned mark such as `*T001`. Any characters up to four can be assigned as the element name.

Even if the length of the element name is less than four characters, the element mark occupies six characters, since the mark on the image area consists of an asterisk, the name, and a blank character.

Element Mark On/Off

The element marks on the image area can be suppressed or re-displayed by pressing F15 (Mark On/Off). When the F15 key is first pressed, all the element marks displayed on the image area disappear from the display except the last one. This is especially useful to verify the entire text element or line/box element without overriding other element marks.

When the F15 key is pressed the second time, all the element marks are displayed on the image area again.

Hide

One element may be overlapped with other elements in the display. If element marks overlap each other on the image area, the one created last is displayed. The other overlapped marks are not displayed. By repeatedly creating elements, some elements can not be seen on the image area. To solve this problem, the **hide** function is provided. This function temporarily removes elements one by one at the position of the cursor, and an element that was overlapped by the hidden one appears. You can use this function by pressing F16 (Hide).

The hidden elements are removed from the image area, but not actually removed. You can see them by pressing the F5 (Refresh) key.

Refresh

The Overlay Utility and the Print Format Utility also provide the **refresh** function. You can use this function by pressing F5 (Refresh). It restores the elements that were temporarily hidden by the hide function.

Both hide and refresh functions only affect the image shown on the display. They do not change the elements you entered nor do they change the printed output when an overlay or PFD data is printed.

Scroll

The Overlay Utility and the Print Format Utility provide two ways to scroll in the screen view and the list view:

- Function keys
- Control field

Function Keys: Through the image area, you can see the position of the element or the entire overlay, page layout, or record layout on the display. The image area is similar to a window through which you can see the layout. If the layout is longer than the image area, you can see only a part of it. Therefore, you need to scroll the image area to see the other parts of the layout. The following keys are available to scroll the image area.

Figure 22. Function Keys for Scroll Operation

Key	Function	Description
Roll Down (Page Up)	Backward	The image area moves toward the top line.
Roll Up (Page Down)	Forward	The image area moves toward the bottom line.
F19	Left	The image area moves toward the first column.
F20	Right	The image area moves toward the last column.

Control Field: In addition to the scrolling functions provided by function keys, the Overlay Utility and the Print Format Utility provide the function to scroll through the image area using the *Control* field on the display. Do the following:

1. Enter one of the following commands in the *Control field* on the image area.
2. Press Enter.

Figure 23. Commands in Control Field for Scroll Operation

Command	Function	Description
-n	Backward	The image area moves n lines toward the top line.
+n	Forward	The image area moves n lines toward the bottom line.
W-n	Left	The image area moves n columns toward the first column.
W+n	Right	The image area moves n columns toward the last column.
n	Specific line move	The image area moves to the nth line.
Wn	Specific column move	The image area moves to the nth column.
*TOP	Absolute line move	The image area moves to the first line.
*BOT	Absolute line move	The image area moves to the last line.

Element Operations in the Screen View

In the screen view, you can do the following element operations:

- Define (place) an element
- Change an element
- Edit an element (copy, move, or remove)
- Edit a block of elements (copy, move, or remove)

The operational steps are different for each operation, but you need to scroll the image area until your desired part is displayed before you start the following operations.

Define Element Operation

You can enter the define element operation by pressing the F6, F9, F10, F11, or F13 key depending on the element type to be defined. With the define element operation, you can define an element of an overlay, a record layout, or a page layout.

The key entry area is displayed. Its format depends on the type of element to be defined. The fields which allow input are the mandatory parameters to define the element. If you need to specify additional characteristics of the element, you need to show the Define Detail display by pressing F4 (Detail).

For details of this operation, see one of the following:

- "Text" on page 233
- "Line" on page 240
- "Box" on page 243
- "Bar Code" on page 253
- "Page Segment" on page 263
- "Graphics" on page 269
- "Record Layout" on page 275

Change Element Operation

You can enter the change element operation by pressing the F14 (Change) key when the cursor is on the mark of an element. The key entry area appears and the remainder of the operation is the same as that of Define Element Operation. The cursor is considered to be on the mark if the cursor is on the asterisk of a mark or on the four characters which follow.

You can also duplicate any element while changing the element except the placed record on a page layout. From the Change Element screen, press the F13 (Repeat element) key. The Repeat Element screen will be displayed.

On the Repeat Element screen you can specify the position of the first repetition, the element name, the direction of the repetitions, the number of repetitions across and down, and the distance across and down from one element to the next. For additional information on the Repeat element function, see the help text on the Repeat element screen.

Edit Operation

You enter the edit operation by pressing the F21 or F22 key in the screen view display. You can edit elements one by one (Element edit), or in a block by specifying two diagonally opposite positions (Block edit). F21 (Element edit) starts the element edit operation, while F22 (Block edit) starts the block edit operation. The functions for both edit types are copy, move, and remove. For the element edit, the cursor is used to select an element by placing it at the element mark. For the block edit, the cursor is used to select a block by specifying two diagonally opposite positions.

Specify one of the move, copy, or remove operations for the selected element or for the block by pressing the appropriate function key. The operation takes place for all elements in the block, even if some of them are not displayed. In the case of line elements, box elements, and graphics elements, the entire element must be surrounded by the specified block. For the other elements, those elements whose mark (first asterisk only) is in the block will be selected.

You need to place the cursor at the position where the selected element or block is copied or moved to, and press the appropriate function key. To remove, press the appropriate function key.

For more detailed information, see one of the following:

- "Element Edit" on page 279.
- "Block Edit" on page 280.

Function Keys on the Design Display

On the Design display, some function keys work the same regardless of the operation that is performed, while some function keys work differently depending on the operation.

The following function keys work the same: (* after the key name indicates the key cannot be used in the list view. @ after the key name indicates the key can be used only in the list view.)

Figure 24 (Page 1 of 2). Common Function Keys for all Operations on the Design Display

Key	Function	Description
F1	Help	Displays different help screens at various cursor positions.
F5 *	Refresh	Restores the elements that have been previously hidden by the F16 key. This key only affects the display of the overlay images on the screen, but does not change the elements you entered.
F15 *	Mark on/off	This function key cannot be used in the list view. Re-displays or suppresses the element marks on the image area. This function lets you view the entire text, line, or box element without being overridden by other element marks.
F16 *	Hide	This function key cannot be used in the list view. Hides the element consecutively at the cursor position. This function is used to view the elements in the image area. Elements which are hidden still exist and will be printed.
F19	Left	This function key cannot be used in the list view. Moves the image area toward the first column position.
F20	Right	Moves the image area toward the last column position.
F24	More keys	Displays the function key assignments not currently displayed.

Figure 24 (Page 2 of 2). Common Function Keys for all Operations on the Design Display

Key	Function	Description
Roll Up (Page Down)	Forward	Moves the image area toward the bottom line.
Roll Down (Page Up)	Backward	Moves the image area toward the top line.

You are in the base operation when:

- You enter the Design display.
- You end the operation of defining an element by pressing the F3 or F12 key.
- You complete an operation on the Design display.

You can use the following keys in the base operation.

Figure 25. Function Keys for Base Operation on the Design Display

Key	Function	Description
F3	Exit	Exits the Design display.
F4 @	Sort	Sorts the element list by the field on which the cursor is positioned. The fields which can be used to sort the list are NBR, NAME, ACROSS, and DOWN. This function cannot be used in the screen view.
F6	Text	Defines a text element.
F9	Line	Defines a line element. Press this key twice, to enter the start and end position.
F10	Box	Defines a box element. Press this key twice, to enter the start and end position.
F11	Bar code	Defines a bar code element.
F13	Place	Places a page segment, a graphic, or a record layout. Place the cursor at the desired position and press the F13 key. Then press the F6 key at the two opposite corners of a rectangle to place a graphic, the F9 key to place a page segment, or press the F11 key to place the record layout. You can place the record layout only when you are on the Design Page Layout display.
F14	Change	Changes an existing element. Place the cursor on the element's mark (or the element's line in list view, and press the F14 key.
F17	Switch view	Switches the view back and forth between the screen view to the list view.
F21 *	Element edit	Initiates the element edit operation.
F22 *	Block edit	Initiates the block edit operation.

Figure 26. Function Keys for Define or Change Operation on the Design Display

Key	Function	Description
F3	Exit	Exits the define or change operation and returns to the base operation.
F4	Detail	Shows the Define or Change Detail display to enter more parameters.
F6	Change measurement method	Changes the measurement method between Row/Column and Inch/Centimeter.
F12	Cancel	Cancels the define or change operation and returns to the previous operation. The previous operation is: • The base operation if you are defining text or a bar code element, or changing an element. • The specifying end position if you are defining or changing a line element, box element, or graphics element. • The specifying end position if you are defining a line element or box element.
F13	Repeat element	Shows the Repeat element display to specify parameters for repeating the element. This function key cannot be used when changing a placed record on a page layout. To change the repetition of the placed record, use the F4 (Detail) key.

You can use the following function keys when you are placing a graphics element, a page segment, or a record layout:

- Press the F13 key.

Figure 27. Function Keys for Place Operation on the Design Display

Key	Function	Description
F3	Exit	Exits the place operation and returns to the base operation.
F6	Place graphics	Press this key twice to determine the size of the graphics data to be mapped. Then the key entry area will be displayed to enter the name of the graphics element.
F9	Place page segment	Displays the key entry area to enter the name of the page segment.
F11	Place record layout	Displays the key entry area to enter the parameters to place the record layout. You can use this function key only when you are on the Design Page Layout display.
F12	Cancel	Cancels the place operation and returns to the previous operation.

You can use the following function keys when you are editing an element or a block of elements:

- Press the F21 key.
- Press the F22 key twice.

Figure 28. Function Keys for Edit Operation on the Design Display

Key	Function	Description
F3	Exit	Exits the edit operation and returns to the base operation.
F6	Copy	Copies the element or multiple elements to a desired position.
F9	Move	Moves the element or multiple elements to a desired position.
F10	Remove	Removes the element or multiple elements.
F12	Cancel	Cancels the edit operation and returns to the previous operation. The previous operation is: • The base operation if you are defining a text or bar code element, or changing an element. • The place operation if you are placing a graphics element, page segment, or record layout. • The specifying end position if you are defining line element, box element, or graphics element.

You can use the following function keys when you are specifying the end position:

- Press the F6 key to specify the end position of a graphic.
- Press the F9 key to specify the end position of a line.
- Press the F10 key to specify the end position of a box.
- Press the F22 key to specify the end position of a block.

Figure 29. Function Keys to Specify End Position on the Design Display

Key	Function	Description
F3	Exit	Exits the specify end position display and returns to the base operation.
F6	Graphics	Specifies the end position if you pressed the F6 key before.
F9	Line	Specifies the end position if you pressed the F9 key before.
F10	Box	Specifies the end position if you pressed the F10 key before.
F12	Cancel	Cancels the specify end position display and returns to the previous operation.
F22	Block edit	Specifies the end position if you pressed the F22 key before.

Defining or Changing an Element

In the screen view, you can define an element in the following steps.

Step 1. Move the cursor to the position where you want to place an element, or to the mark of the element to be changed on the image area.

Step 2. Press an appropriate function key assigned for the element. The possible function keys are shown below:

Text	F6 (Text)
Line	F9 (Line)
Box	F10 (Box)
Bar Code	F11 (Bar code)
Graphics	F13 (Place), then F6 (Graphics)
Page Segment	F13 (Place), then F9 (Page segment)
Record Layout	F13 (Place), then F11 (Record layout)
Change (Any element)	F14

An element mark that begins with % is shown at the cursor position.

Step 3. When you define a line, a box, or a graphic, move the cursor to the end of the element, and press F6, F9, or F10 again. When you define other elements, this step is not needed.

Step 4. The key entry area appears.

After these steps, the Overlay Utility and the Print Format Utility show the key entry area in the Design display. The key entry area overrides the lower part of the image area. See the following description for each parameter in the key entry area and detailed information according to the type of the element:

Text	“Text” on page 233
Line	“Line” on page 240
Box	“Box” on page 243
Bar code	“Bar Code” on page 253
Page segment	“Page Segment” on page 263.
Graphics	“Graphics” on page 269.
Record layout	“Record Layout” on page 275.

```
                              Design Overlay              Columns:   1- 74
Control  . . ______    Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                %T001
003
004
005
006
007
008
009
010
011
012
                                                                        More...
_____________________________________________________________________________
                                 Define Text
 Mark . . . . . : *T001          Measurement method . . . . : Row/Column
 Position . . . . . Across      32     Down      2
 Text data  . . . . _____________________________________________________

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

The key entry area format depends on the element type to be defined. In the previous display, the Overlay Utility and the Print Format Utility assign the element mark to this element and display it at the previous cursor position on the image area. The Overlay Utility and the Print Format Utility move the cursor to the appropriate input field on the key entry area.

For all the element types, you are asked to complete all mandatory parameters in the key entry area to complete the element definition.

Step 5. Type the values for the parameters.

The Overlay Utility and the Print Format Utility prompt you to type the mandatory parameters to create the element. For example, on the display on page 231, you need to type the text data; `This is an example.` as shown in the *Text data* prompt in the following display.

```
                                Design Overlay              Columns:   1- 74
Control  . . ______    Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                %T001
003
004
005
006
007
008
009
010
011
012                                                                    More...
_____________________________________________________________________________
                                Define Text
 Mark . . . . . : *T001         Measurement method . . . . : Row/Column
 Position . . . . . Across     32     Down      2
 Text data  . . . . This is an example.

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

To change an element created previously, place the cursor at the element mark. Then use the change function by pressing the F14 key. The same display as the one to create the element is displayed on the image area, except that the previously entered parameters appear in their appropriate fields.

The following parameters are common to all elements in this display:

Field Name	Description
Mark	The element mark is displayed in this field. It could be either a system-assigned mark or a user-assigned name.
Measurement method	This field shows the measurement method used to specify the position. You may change this field by pressing the F6 key.
Position	The position parameter consists of across and down values. These values specify the horizontal and vertical position of the element being defined. Possible values for each measurement method in this field are: **Measurement Method** — **Possible Value Range** **Inches** — 0 to 22.75 **Centimeters** — 0 to 57.79 **Row/Columns** — 1 to 999 **Note:** The possible value range depends on the size of the overlay or the page layout. If the size is smaller than the values, the overlay or page layout size is the maximum possible value. The Overlay Utility and the Print Format Utility check the specified values to make sure the element is completely contained in the overlay, the record layout, or the page layout by referring to the page size which was previously defined in the overlay specifications or the PFD specifications. If you press the F6 key to change the addressing from the current value to another, the values of this field will be changed to the appropriate values for the new unit of measure as accurately as possible by the Overlay Utility and the Print Format Utility. The element display position in the image area will be moved to the new position if you change the value in this field.

In addition to the parameters shown above, depending on the element type, you need to enter the mandatory parameters.

Step 6. Define the specifications.

By pressing the F4 key, you can also more precisely specify an element by adding more parameters.

Step 7. Complete the definition by pressing the Enter key.

Finally, the defined element appears on the image area as shown in the following display.

```
                                  Design Overlay              Columns:   1- 74
Control  . . _____     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                                 *T001 s an example.
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017
_____                                                                    More...
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
```

Repeat the above steps to define the rest of the elements.

Step 8. After you define all the elements, press the F3 key to save the overlay, the record layout, or the page layout.

Text

To create a text element, press the F6 (Text) key and the key entry area appears in the lower position of the display as follows. This display also appears by pressing the F14 key to change a text element. When you press Enter, the Overlay Utility and the Print Format Utility check the validity of the entered parameters. If errors do not exist, the operation is completed and the key entry area disappears from the display.

By pressing the F4 (Detail) key, you can define the detailed characteristics of the text element.

```
                              Design Overlay              Columns:   1- 74
Control  . . ______    Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002                               %T001 s an example.
003
004
005
006
007
008
009
010
011
012
                                                                        More...
                                  Change Text
 Mark . . . . . : *T001         Measurement method . . . . : Row/Column
 Position . . . . . Across     32     Down      2
 Text data  . . . . AS/400 Stationery Co., Ltd.

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

The following table explains each field in this display.

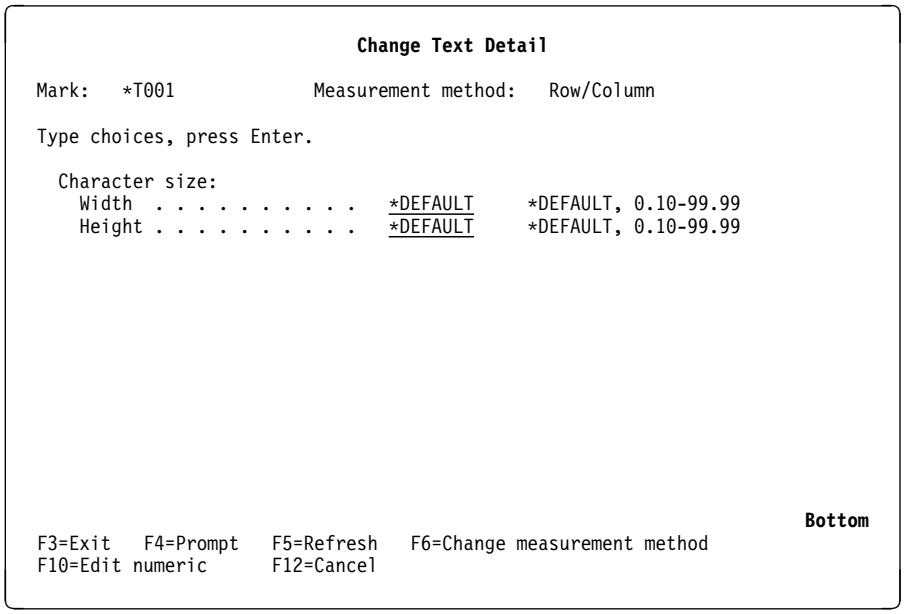
Field Name	Description
Control	You may move the image area window by entering one of the following commands in this field and pressing Enter: **-n** Backward The image area moves n lines toward the top line of the overlay, the record layout, or the page layout. **+n** Forward The image area moves n lines toward the bottom line of the overlay, the record layout, or the page layout. **W-n** Left The image area moves n columns toward the first column of the overlay, the record layout, or the page layout. **W+n** Right The image area moves n columns toward the last column of the overlay, the record layout, or the page layout. **n** The image area moves to the nth line. **Wn** The image area moves to the nth column. ***TOP** The image area moves to the top line. ***BOT** The image area moves to the bottom line. When designing an overlay, a simulated printout of the overlay can be displayed on the workstation. See the Control field Help for further information and restrictions. ***VIEW** A simulated printout of the overlay will be displayed. This function is not available when designing record layouts and page layouts.
Mark	The element mark is displayed in this field. It could be either a system-assigned mark or a user-assigned name.

Field Name	Description
Measurement method	This field shows the measurement method used to specify the position. You may change this field by pressing the F6 key.
Position	The position parameter consists of across and down values. These values specify the horizontal and vertical position of the element being defined.
Text data	You can enter the text data in this field or update the previously entered text data that is displayed in this field. You can enter up to 58 characters. If you need to enter more than 58 characters of text data, press F4 (Detail) to enter the Define Text Detail display. If the previously defined text data is longer than 58 characters, three periods (...) will be displayed at the end of this field. It means that more text data exists. When executing on a DBCS system, DBCS data can be entered in this field.

Press the Enter, F3, or F12 key to return to the Design Overlay display, or press the F4 key to specify more parameters.

In the Define Text Detail display, you can specify more parameters for a text element if you need to define it more precisely. For example, you can specify the character font and color for the text element. The Overlay Utility and the Print Format Utility check the specified values to make sure the element is completely contained in the overlay, the record layout, or the page layout by referring to its page size, which was previously defined in the overlay specifications or the PFD specifications.

```
                          Change Text Detail

Mark:   *T001             Measurement method:   Row/Column

Type choices, press Enter.

  Position:
    Across . . . . . .  32          1-999
    Down . . . . . . .  2           1-999
  Text data  . . . . .  AS/400 Stationery Co., Ltd.

  Element  . . . . . .  ____        Name
  Format . . . . . . .  1           1=Horizontal, 2=Vertical
  Degree of rotation .  0           0, 90, 180, 270
  Color  . . . . . . .  *DEFAULT    *DEFAULT, 1=Blue, 2=Red
                                    3=Magenta, 4=Green, 5=Cyan
                                    6=Yellow, 7=Brown, 8=Black
  Underline  . . . . .  N           Y=Yes, N=No
  Overstrike . . . . .  _           Character
  Font . . . . . . . .  *DEFAULT    *DEFAULT, 1-8, F4 for list
                                                          More...
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method
F10=Edit numeric      F12=Cancel
```


Change Text Detail
Mark: *T001 Measurement method: Row/Column
Type choices, press Enter.
Character size:
Width . . . . . *DEFAULT *DEFAULT, 0.10-99.99
Height . . . . . *DEFAULT *DEFAULT, 0.10-99.99
Bottom
F3=Exit F4=Prompt F5=Refresh F6=Change measurement method
F10=Edit numeric F12=Cancel

Field Name	Description
Mark	Shows the element mark. A mark is either a system-assigned mark or a user assigned-name, and is the same as that shown on the display. A mark is six characters long, the first character is an asterisk (*), and the last character is a blank. The middle four characters are: • For a system-assigned mark, the middle four characters are one character for the element type followed by a three-digit sequence number. For text elements, the element type is T and the sequence number is 001 to 999. • For a user-assigned name, the middle four characters are the four characters specified as the value for the element name.
Measurement method	Shows the measurement method used to specify position. You can change this value by pressing F6. You can also select centimeters or inches for the measurement unit in the Define Overlay Specifications display or in the Define PFD Specifications display by specifying unit of measure.
Position	The position parameter consists of across and down values. These values specify the horizontal and vertical position of the element being defined.
Text data	Specify your text data in this field. Text data can be up to 203 bytes in length. If you need to enter or update text data that is more than 203 bytes in length, you have to define it as multiple text elements. For a record layout of the printout format definition (PFD definition), you can enter a database field name. For example, a field name PRODCT is specified as "&PRODCT." You can see the list of fields and select one of them by placing the cursor in the *Text data* prompt and pressing the F4 key. You can also specify reserved variable data in a record layout and a page layout, and summary data in a page layout. See Chapter 10, “Work with PFD Definitions” on page 139 for more information. **Note:** You can enter only one line of text for a text element. To enter multiple lines of text, use a box element or multiple text elements.

Field Name	Description
Element	Specify the element name in this prompt. An element name is 1 to 4 characters in length. If an element name is specified (not blank) for an element, the element mark is displayed as an asterisk (*) followed by the element name. It is not an asterisk (*) followed by the element type and three-digit sequence number.
Format	Specifies the printing direction of the text. Specify one of the following values: **Horizontal** Characters are printed from left to right. **Vertical** Characters are printed vertically from top to bottom. Vertical lines of text are printed from left to right. **Vertical, right to left** Characters are printed vertically from top to bottom. Vertical lines of text are printed from right to left, as the Japanese traditional way of formatting. This is the same meaning as Vertical when there is only one line of text. This choice appears when you are using DBCS data in the file for which you specified Y (Yes) for the *User specified DBCS data* prompt. The Right to Left option does not apply on a non-DBCS system. See “Formatting Examples” on page 252 for examples of formatting. **Notes:** 1. You can enter only one line of text for a text element. To enter multiple lines of text, use a box element or multiple text elements. 2. Not all printers support the vertical format. You cannot enter 2 (Vertical) or 3 (Vertical right to left) if the printer does not support the vertical format. 3. To use 2=Vertical or 3=Vertical right to left, you should be aware of the following: • If your printer type is 1, you cannot use these formats. • If your printer type is 2 or 3, you must specify font type 2 or 3. • If your printer type is one of the others, no restrictions apply.
Degree of rotation	Specifies the degrees of rotation of the text in terms of an angle measured clockwise from the overlay, page layout, or record layout. The default value is 0.
Color	Specifies the color used to print the text. The default value is *DEFAULT; the printer default color. **Notes:** 1. Not all printers support color printing. You cannot enter a value in the *Color* prompt if the printer does not support color printing. 2. If the printer does not support the color you select, an error occurs or a default color is used when this text is printed. You should check which colors are supported on the printer. 3. To use values other than *DEFAULT and 8=Black, you should be aware of the following: • Your printer type must be 1 or 9, and your printer must be able to print the specified color.

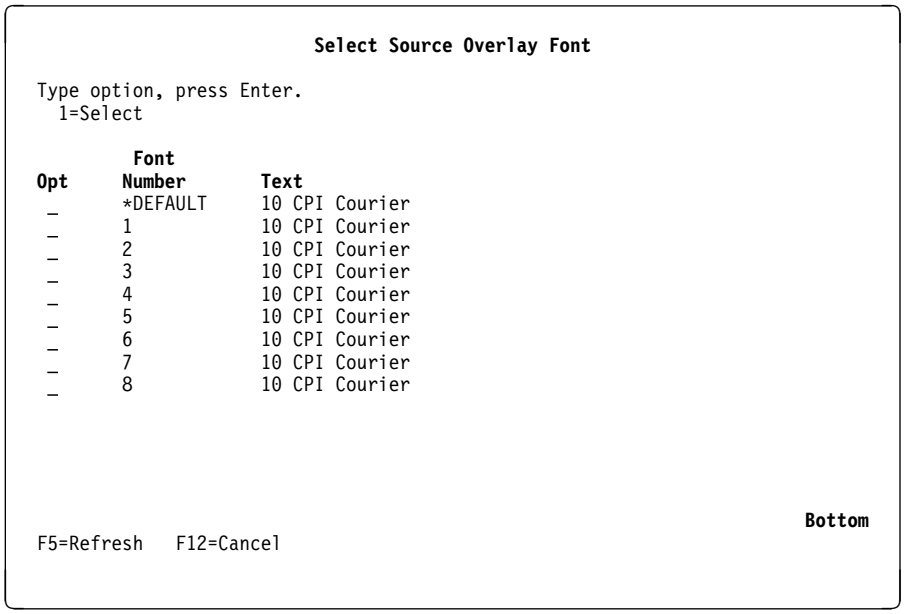
Field Name	Description
Underline	Specifies whether or not text is printed with an underline. **Y (Yes)** An underline is printed. **N (No)** No underline is printed. An underline starts at the beginning of the text data, which includes leading blanks and blanks between characters if they exist. An underline stops at the end of the text data. **Notes:** 1. Not all printers support this function. You are not allowed to enter the value if the printer does not support this function. 2. To use underline, you should be aware of the following: • If your printer type is 4, 5, or 6, you must specify font type 1 or 3. • If your printer type is one of the others, there are no restrictions.
Overstrike	Specifies a single SBCS character in the *Overstrike* prompt to type over on all characters in the defined text data including blank character(s). If DBCS characters exist in that text, the characters are not typed over. **Notes:** 1. Not all printers support this function. You are not allowed to enter the value if the printer does not support this function. 2. To use overstrike, you should be aware of the following: • If your printer type is 4, 5, or 6, you must specify font type 1 or 3. • If your printer type is one of the others, there are no restrictions.
Font	Specifies a font number. A font number is 1 to 8, and *DEFAULT. A number or *DEFAULT is defined in the Work with Source Overlay Fonts or the Work with PFD Definition Fonts display. You can see the list of fonts and select one of them by placing the cursor in this field and pressing F4. **Notes:** 1. The program does not verify that the specified font exists and is an SBCS font. If the font does not exist, some errors may occur when this text is printed. If you specify a DBCS font, the result is unpredictable. Some unexpected characters may be printed, or some errors may occur. 2. *DEFAULT no longer indicates to use the default font of the printer. When *DEFAULT is different from what you want, change it on the Work with Source Overlay Fonts display or the Work with PFD Definition Fonts display.
DBCS font	Specifies a font number. A font number is 1 to 8, and each number is defined in the Work with Source Overlay Fonts or the Work with PFD Definition Fonts display. You can see the list of fonts and select one of them by placing the cursor in this field and pressing F4. This prompt appears when you are using DBCS data in the file for which you specified Y (Yes) for the *User specified DBCS data* prompt. **Note:** It is not checked if the specified font exists and is a DBCS font. If it does not exist, some errors may occur when this text is printed. If you specify a SBCS font, the result is unpredictable. Some unexpected characters may be printed, or some errors may occur.

Field Name	Description
Character size	Specifies the character width and character height to be printed. **Note:** When you use values other than *DEFAULT, the values impact performance. You also should be aware of the following: • If your printer type is 4, 5, or 6, you can not specify this parameter. • If your printer type is 2 or 3 you must specify font type 1. • If your printer type is one of the others, there are no restrictions.
Width	Specifies each character's width. When the measurement method is Row/Column, you can specify the multiplier of the character width which was specified as Characters per inch in the overlay specifications or the PFD specifications. Otherwise, you can specify the character width in that measurement method, that is, the unit of measure in the overlay specifications or the PFD specifications. The printer prints the overlay text data with either enlarged or reduced characters. The default value *DEFAULT indicates that the font is used as is and no enlarging or reducing is performed. The character width is measured by its font box width. The origin of the character font is set at the bottom left corner of the font box. **Notes:** 1. Not all printers support this function, and this prompt is not displayed if the printer you specify does not support this function. 2. If the value you specify is too small for the 4224 printer, the 4234 printer, and the 4230 printer, the text is not printed correctly.
Height	Specifies each character's height. When the measurement method is Row/Column, you can specify the multiplier of the character height which was specified as Characters per inch in the overlay specifications or the PFD specifications. Otherwise, you can specify the character height in that measurement method, that is, the unit of measure in the overlay specifications or the PFD specifications. The printer prints the overlay text data with either enlarged or reduced characters. The default value *DEFAULT indicates that the font is used as is and no enlarging or reducing is performed. The character height is measured by its font box height. The origin of the character font is set at the bottom left corner of the font box. **Notes:** 1. Not all printers support this function, and this prompt is not displayed if the printer you specify does not support this function. 2. If the value you specify is too small for the 4224 printer, the 4234 printer, and the 4230 printer, the text is not printed correctly.

When you press Enter, the Overlay Utility and the Print Format Utility check the validity of the entered parameters. If no errors are detected, the text element will be defined and the Design display will be displayed.

Font Selection: You can show the Select Source Overlay Font display or the Select PFD Definition Font display by positioning the cursor in the *Font* or the *DBCS font* prompt and pressing the F4 (Prompt) key.

You can select a font to use from the list. The fonts are defined in the Work with Source Overlay Fonts display and in the Work with PFD Definition Fonts display.



This display shows the list of source overlay fonts or PFD definition fonts. You can select a font by typing 1 in the *Opt* column next to the *Font Number* column and pressing Enter.

The following table explains each field in this display.

Field Name	Description
Opt	Specify a 1 to specify a source overlay font or PFD definition font.
Font Number	Shows the font number.
Text	Shows the description of the font.

You may specify a 1 in the *Opt* column, then press Enter. Now you return to the previous display.

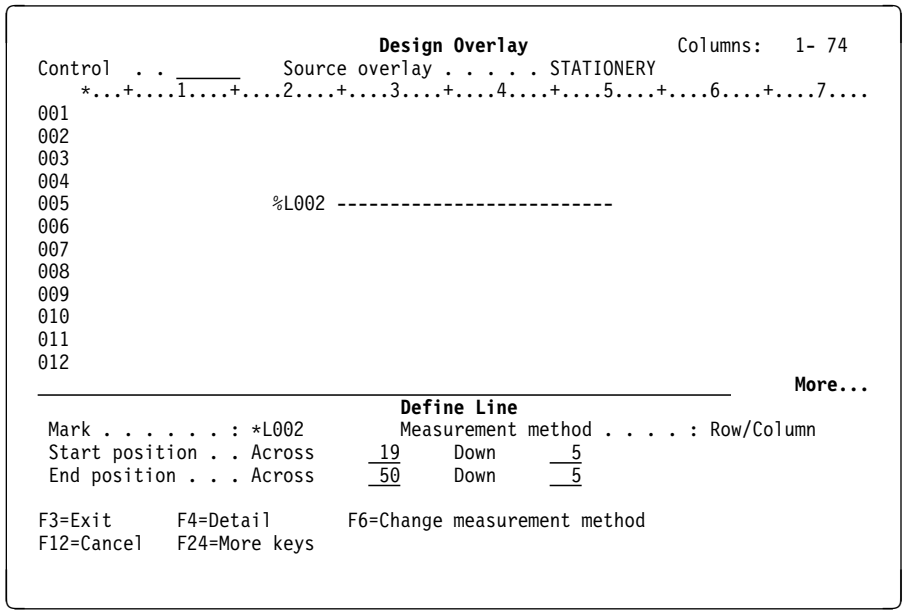
Line

To specify a line element, first move the cursor to the start position of the line and press the F9 key to define a line element. A mark `%Lnnn` (where nnn is 001 through 999) appears at the start position.

Move the cursor to the end position of the line element and press the F9 key again.

The key entry area will appear at the lower part of the image area. Start and end positions that were previously identified by the cursor are displayed. A line image also appears to show the start and end positions on the image area.

To change a line element, move the cursor to the mark of the line and press the F14 (Change) key. The key entry area will appear at the lower part of the image area.



The following table explains each field in this display.

Field Name	Description
Control	You may move the image area window by entering one of the following commands in this field and pressing Enter: **-n** Backward The image area moves n lines toward the top line of the overlay, the record layout, or the page layout. **+n** Forward The image area moves n lines toward the bottom line of the overlay, the record layout, or the page layout. **W-n** Left The image area moves n columns toward the first column of the overlay, the record layout, or the page layout. **W+n** Right The image area moves n columns toward the last column of the overlay, the record layout, or the page layout. **n** The image area moves to the nth line. **Wn** The image area moves to the nth column. ***TOP** The image area moves to the top line. ***BOT** The image area moves to the bottom line. When designing an overlay, a simulated printout of the overlay can be displayed on the workstation. See the Control field Help for further information and restrictions. ***VIEW** A simulated printout of the overlay will be displayed. This function is not available when designing record layouts and page layouts.
Mark	The element mark is displayed in this field. It could be either a system-assigned mark or a user-assigned name.

Field Name	Description
Measurement method	This field shows the measurement method used to specify the position. You may change this field by pressing the F6 key.
Start position	The position parameter consists of across and down values. These values specify the horizontal and vertical start position of the element being defined.
End position	The position parameter consists of across and down values. These values specify the horizontal and vertical end position of the element being defined.

Press the Enter, F3, or F12 key after you specify the parameters, or press the F4 key to specify more parameters.

By pressing the F4 key, the following display appears to specify those characteristics.

```
                          Define Line Detail

Mark:   *L002             Measurement method:   Row/Column

Type choices, press Enter.

  Start position:
    Across . . . . . .   19          1-999
    Down . . . . . . .   5           1-999
  End position:
    Across . . . . . .   50          1-999
    Down . . . . . . .   5           1-999
  Element  . . . . . .   ____        Name
  Line type  . . . . .   1           1=Solid, 2=Dashed, 3=Dotted
  Line width . . . . .   *MEDIUM     *NARROW, *MEDIUM, *WIDE
                                     0.00-1.00
  Line placement . . . . . .   1     1=Middle, 2=Border




                                                                    Bottom
F3=Exit   F5=Refresh   F6=Change measurement method   F12=Cancel
```

The following table explains each field in this display.

Field Name	Description
Mark	Shows the element mark. A mark is either a system-assigned mark or a user assigned-name, and is the same as that shown on the display. A mark is six characters long, the first character is an asterisk (*), and the last character is a blank. The middle four characters are: • For a system-assigned mark, the middle four characters are one character for the element type followed by a three-digit sequence number. For line elements, the element type is L and the sequence number is 001 to 999. • For a user-assigned name, the middle four characters are four characters specified as the value for the element name.
Measurement method	Shows the measurement method used to specify positions. You can change this value by pressing F6. You can also select centimeters or inches for the measurement unit in the Define Overlay Specifications display or the Define PFD Specifications display by specifying unit of measure.

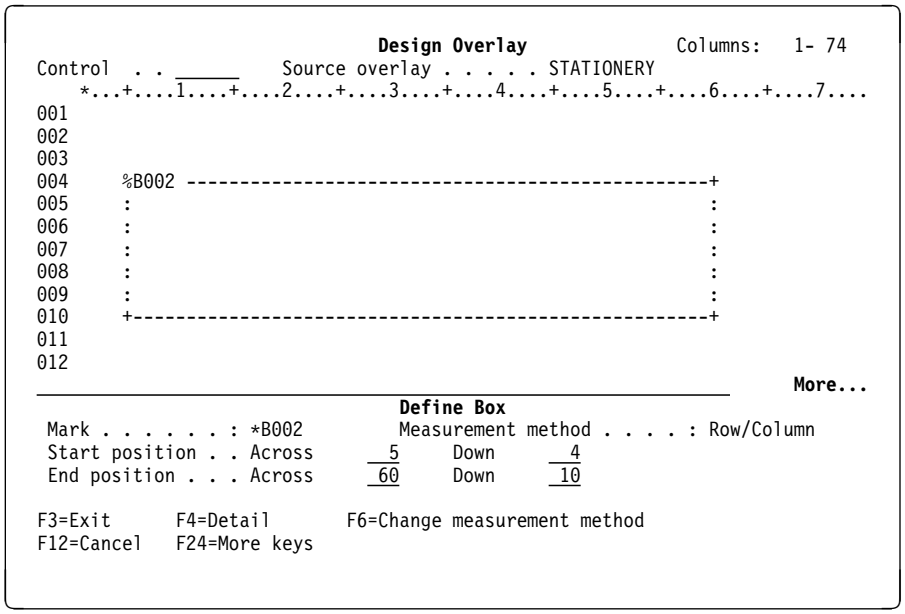
Field Name	Description
Start position	The position parameter consists of across and down values. These values specify the horizontal and vertical start position of the element being defined.
End position	The position parameter consists of across and down values. These values specify the horizontal and vertical end position of the element being defined.
Element	Specifies the element name that appears on the image area instead of a regular line element mark, such as *L001. The default value is blank which is to display the regular element mark.
Line type	Specifies the type of line used to draw the box on the printer. **1** Solid line _____ **2** Dashed line - - - - - **3** Dotted line . . . . . The default value is 1 (Solid line).
Line width	Specifies the width of line used to draw the line on the printer. ***NARROW** 1/120 inch ***MEDIUM** 1/60 inch ***WIDE** 1/40 inch **n** If the unit of measure specified in the specification is inch, n is 0.00 - 1.00 otherwise n is 0.00 - 2.54.
Line placement	Specifies the placement of the line. This parameter is used only when the measurement method is Row/Column. **1 Middle** Line is drawn in the middle of character cells. **2 Border** Horizontal line is drawn at the top of character cells. Vertical line is drawn at the left of character cells. The default value is 1 Middle.

Press Enter, the F3, or F12 key after you specify the parameters. The Design display will be displayed.

Box

The following display appears by pressing the F10 key at the diagonal points for a box element definition, or by pressing the F14 key to change a box element.

When you press Enter, the Overlay Utility and the Print Format Utility check the validity of the entered parameters. If no errors exist, the operation is completed and the key entry area disappears from the display.



The following table explains each field in this display.

Field Name	Description
Control	You may move the image area window by entering one of the following commands in this field and pressing Enter: **-n** Backward The image area moves n lines toward the top line of the overlay, the record layout, or the page layout. **+n** Forward The image area moves n lines toward the bottom line of the overlay, the record layout, or the page layout. **W-n** Left The image area moves n columns toward the first column of the overlay, the record layout, or the page layout. **W+n** Right The image area moves n columns toward the last column of the overlay, the record layout, or the page layout. **n** The image area moves to the nth line. **Wn** The image area moves to the nth column. ***TOP** The image area moves to the top line. ***BOT** The image area moves to the bottom line. When designing an overlay, a simulated printout of the overlay can be displayed on the workstation. See the Control field Help for further information and restrictions. ***VIEW** A simulated printout of the overlay will be displayed. This function is not available when designing record layouts and page layouts.
Mark	The element mark is displayed in this field. It could be either a system-assigned mark or a user-assigned name.

Field Name	Description
Measurement method	This field shows the measurement method used to specify the position. You may change this field by pressing the F6 key.
Start position	The position parameter consists of across and down values. These values specify the horizontal and vertical start position of the element being defined.
End position	The position parameter consists of across and down values. These values specify the horizontal and vertical end position of the element being defined.

Press Enter, the F3, or F12 key after you specify the parameters, or press the F4 key to specify more parameters.

When you press the F4 key, the following display appears. You can specify further details of the box element. For example, you can specify the line type, the line width, the line placement, the shading pattern, and the shading type on this display.

```
                              Define Box Detail

Mark:   *B002             Measurement method:   Row/Column

Type choices, press Enter.

  Start position:
    Across . . . . . .  5          1-999
    Down . . . . . .  4            1-999
  End position:
    Across . . . . . .  60         1-999
    Down . . . . . .  10           1-999
  Element  . . . . . .  ____       Name
  Line type  . . . . . .  1        1=Solid, 2=Dashed, 3=Dotted
  Line width . . . . . .  *MEDIUM  *NARROW, *MEDIUM, *WIDE
                                   0.00-1.00
  Line placement . . . . . .  1    1=Middle, 2=Border



                                                                    More...
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

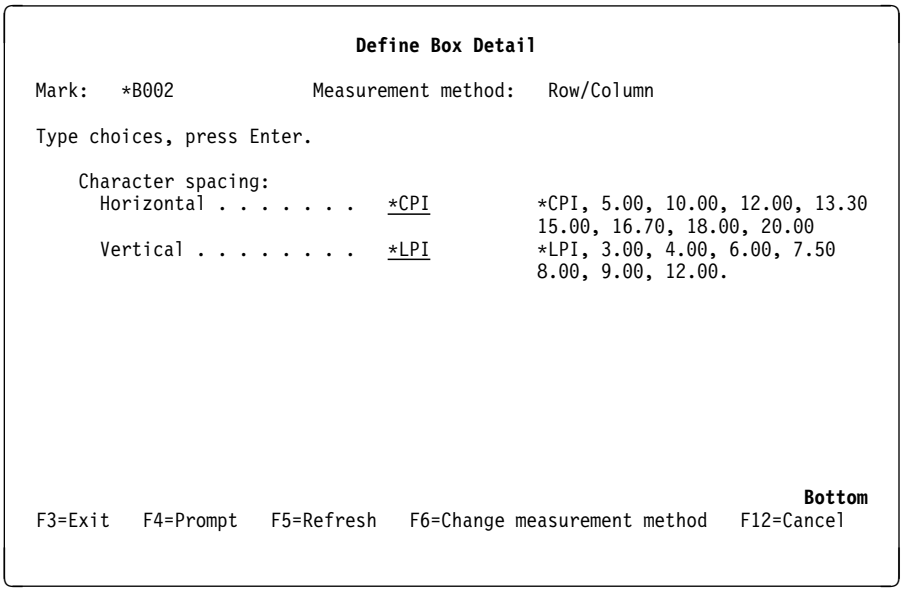
Press the Roll Up (Page Down) key to see the next page of the Define Box Detail display.

```
                          Define Box Detail

Mark:   *B002             Measurement method:   Row/Column

Type choices, press Enter.

  Shading:
    Pattern  . . . . . .  _             1=Standard, 2=Screen
    Type . . . . . . . .  *MEDIUM       *LIGHT, *MEDIUM, *DARK
                                        *HIGHLIGHT, 0.01-100.00 (%)
  Text:
  Text data  . . . . . .  ____________________________________________
_____________________________________________________________________
_____________________________________________________________________




                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

Press the Roll Up (Page Down) key to see the next page of the Define Box Detail display.

```
                          Define Box Detail

Mark:   *B002             Measurement method:   Row/Column

Type choices, press Enter.

Text:
  Format . . . . . .  .   1             1=Horizontal, 2=Vertical
  Placement:
    Horizontal . . . . .  1             1=Left, 2=Center, 3=Right
                                        4=Balance
    Vertical . . . . . .  1             1=Top, 2=Center, 3=Bottom
  Degree of rotation . . . . .  0___    0, 90, 180, 270
  Color .  . . . . . .  .   *DEFAULT    *DEFAULT, 1=Blue, 2=Red
                                        3=Magenta, 4=Green, 5=Cyan
                                        6=Yellow, 7=Brown, 8=Black
  Underline  . . . . . .  .  N          Y=Yes, N=No
  Overstrike . . . . . .  .  _          Character
  Font . . . . . .  .   .   *DEFAULT    *DEFAULT, 1-8, F4 for list
  DBCS font .  . . . . . .  _           1-8, F4 for list
                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

Press the Roll Up (Page Down) key to see the next page of the Define Box Detail display.


Define Box Detail
Mark: *B002 Measurement method: Row/Column
Type choices, press Enter.
Character spacing:
Horizontal . . . . . *CPI *CPI, 5.00, 10.00, 12.00, 13.30
15.00, 16.70, 18.00, 20.00
Vertical . . . . . *LPI *LPI, 3.00, 4.00, 6.00, 7.50
8.00, 9.00, 12.00.
Bottom
F3=Exit F4=Prompt F5=Refresh F6=Change measurement method F12=Cancel

The following table explains each field in this display.

Field Name	Description
Mark	Shows the element mark. A mark is either a system-assigned mark or a user assigned-name, and is the same as that shown on the display. A mark is six characters long, the first character is an asterisk (*) and the last character is a blank. The middle four characters are: • For a system-assigned mark, the middle four characters are one character for the element type followed by a three-digit sequence number. For box elements, the element type is B and the sequence number is 001 to 999. • For a user-assigned name, the middle four characters are four characters specified as the value for the element name.
Measurement method	Shows the measurement method used to specify positions. You can change this value by pressing F6. You can also select centimeters or inches for the measurement unit in the Define Overlay Specifications display by specifying unit of measure.
Start position	The position parameter consists of across and down values. These values specify the horizontal and vertical start position of the element being defined.
End position	The position parameter consists of across and down values. These values specify the horizontal and vertical end position of the element being defined.
Element	Specifies the element name. An element name is 1 to 4 characters in length. If an element name is specified (not blank) for an element, the element mark is displayed as an asterisk (*) followed by the element name. It is not an asterisk (*) followed by the element type and three-digit sequence number.
Line type	Specifies the type of line used to draw the box on the printer. **1** Solid line _____ **2** Dashed line - - - - - **3** Dotted line . . . . . The default value is 1 (Solid line).

Field Name	Description
Line width	Specifies the width of line used to draw the box on the printer. ***NARROW** 1/120 inch ***MEDIUM** 1/60 inch ***WIDE** 1/40 inch **n** If the unit of measure specified in the specification is inch, n is 0.00 - 1.00 otherwise n is 0.00 - 2.54. If you specify 0 for this parameter, the text in the box is formatted and the box is not printed. If the measurement method of the text in the box is Row/Column, it is formatted according to the line placement parameter.
Line placement	Specifies the placement of the line used to draw the box. This parameter is used only when the measurement method is Row/Column. **1 Middle** Lines are drawn in the middle of character cells. **2 Border** Upper horizontal line is drawn at the top of character cells, and lower horizontal line is drawn at the bottom of character cells. A left vertical line is drawn at the left of character cells, and a right vertical line is drawn at the right of character cells. The default value is 1 Middle.
Shading Pattern	Specifies the pattern used to shade the box. **1=Standard** Standard shading pattern is used. **2=Screen** Screen shading pattern is used. See “Shading Pattern in Box” on page 437 for examples of the shading pattern. If you do not specify anything, the box is not shaded.
Shading Type	Specifies the type of shading when the *Shading pattern* prompt is specified. ***LIGHT** Black is 24% and white is 76%. ***MEDIUM** Black is 48% and white is 52%. ***DARK** Black is 72% and white is 28%. ***HIGHLIGHT** The shaded area will be highlighted in color. The color used will be the highlighting color of the printer, but may be tinted to a deeper or lighter color. The Define Box Detail panel will be re-displayed to accept input for percent color and percent black. The sum of the two percent values cannot exceed 100 percent. *HIGHLIGHT can only be selected for printer groups which support color highlighting or if the printer type is *DEFAULT and Y (yes) is selected for *Color shading* on the Confirm or Change Printer Attributes panel. When *HIGHLIGHT is selected for the *Shading type*, the *shading pattern* is always set to 1 (Standard). **n** The box is shaded n percent black, while n is a number between 0.01 and 100.00. The default value is *MEDIUM. This prompt is ignored when the *Shading pattern* prompt is not specified except when the *Shading type* is *HIGHLIGHT. See “Shading Pattern in Box” on page 437 for examples of the shading pattern.

Field Name	Description

Text data	Specify your text data in this field. Text data can be up to 203 bytes in length. If you need to enter or update text data that is more than 203 bytes in length, you have to define it as multiple box elements or with text elements.
	
	For a record layout of the printout format definition (PFD definition), you can enter a variable data field as "&<field name>.". You can see the list of fields and select one of them by placing the cursor in the *Text data* prompt and pressing the F4 key.
	
	You can also specify reserved variable data in a record layout and a page layout, and summary data in a page layout. See Chapter 10, “Work with PFD Definitions” on page 139 for more information.
	
	You can specify two or more lines of text for text data in a box element. They are formatted according to the values specified for the *Format* and *Text placement* prompts.
	
	To specify multiple lines of text, you need to enclose each line of text with two apostrophes and one or more blanks between two apostrophes as follows:
	
	`'ABC' 'DEF'`
	
	This means that the first line is `ABC` and the second line is `DEF`.
	
	To specify apostrophes (') in multiple-line text, specify two apostrophes for an apostrophe as follows:
	
	`'Tom''s cap'  'Jane''s car'  --->  Tom's cap`
	`Jane's car`

Format	Specifies the printing direction of the text. Specify one of the following values: **Horizontal** Characters are printed from left to right. **Vertical** Characters are printed vertically from top to bottom. Vertical lines of text are printed from left to right. **Vertical, right to left** Characters are printed vertically from top to bottom. Vertical lines of text are printed from right to left, as the Japanese traditional way of formatting. This choice appears when you are using a DBCS file. This option does not appear when the system is not DBCS capable. See “Formatting Examples” on page 252 or Appendix B, “Rotation, Format, and Shading Pattern in Box” on page 421 for examples of formatting. **Notes:** 1. Not all printers support the vertical format. You are not allowed to enter 2 (Vertical) or 3 (Vertical right to left) if the printer does not support the vertical format. 2. To use 2=Vertical or 3=Vertical right to left, you should be aware of the following: • If your printer type is 1, you can not use these formats. • If your printer type is 2 or 3, you must specify font type 2 or 3. • If your printer type is one of the others, there are no restrictions.

Field Name	Description
Text placement: Horizontal	Specifies how the text is positioned in the box. **1 (Left)** All lines of text are left aligned. **2 (Center)** The following two spaces have the same width. • Between left vertical line of box and the first character of the text • Between right vertical line of box and the last character of the text **3 (Right)** All lines of text are right aligned. **4 (Balance)** The spaces between each character and both vertical lines of the box have the same width. This is valid only when the *Format* is horizontal. The default value is 1 (Left). See Appendix B, "Rotation, Format, and Shading Pattern in Box" on page 421 for examples.
Text placement: Vertical	Specifies how the text is positioned in the box. **1 (Top)** The first line of text is positioned just below the top horizontal line of box. **2 (Center)** The following two spaces have the same length. • Between top horizontal line of box and the first line of the text • Between bottom horizontal line of box and the last line of the text **3 (Bottom)** The last line of text is positioned just above the bottom horizontal line of box. **4 (Balance)** The spaces between each character and both vertical lines of the box have the same width. This is valid only when the *Format* is vertical. The default value is 1 (Top). See Appendix B, "Rotation, Format, and Shading Pattern in Box" on page 421 for examples.
Degree of rotation	Specifies the degrees of rotation of the text in terms of an angle measured clockwise from the overlay, page layout, or record layout. The default value is 0. See Appendix B, "Rotation, Format, and Shading Pattern in Box" on page 421 for examples.
Color	Specifies the color used to print the text. The default value is *DEFAULT. It is the printer default color. **Notes:** 1. Not all printers support the color printing function. You are not allowed to enter a value in the *Color* prompt if the printer does not support color printing. 2. If the printer does not support the color you select, an error occurs or a default color is used when this text is printed. You should check which colors are supported on the printer.

Field Name	Description
Underline	Specifies whether or not text is printed with an underline. **Y (Yes)** An underline is printed. **N (No)** No underline is printed. An underline starts at the beginning of the text data, which includes left blank characters and blanks between characters if they exist. An underline stops at the end of the text data. **Notes:** 1. Not all printers support this function. You are not allowed to enter the value if the printer does not support this function. 2. To use underline, you should be aware of the following: • If your printer type is 4, 5, or 6, you must specify font type 1 or 3. • If your printer type is one of the others, there are no restrictions.
Overstrike	Specifies a single SBCS character in the *Overstrike* prompt to type over on all characters in the defined text data including blank character(s). If DBCS characters exist in that text, the characters are not typed over. **Notes:** 1. Not all printers support this function. You are not allowed to enter the value if the printer does not support this function. 2. To use overstrike, you should be aware of the following: • If your printer type is 4, 5, or 6, you must specify font type 1 or 3. • If your printer type is one of the others, there are no restrictions.
Font	Specifies a font number. A font number is 1 to 8, and *DEFAULT. Each number or *DEFAULT is defined in the Work with Source Overlay Fonts or the Work with PFD Definition Fonts display. You can see the list of fonts and select one of them by placing the cursor in this field and pressing F4. See “Font Selection” on page 239 for details. **Notes:** 1. It is not checked if the specified font exists and is a SBCS font. If it does not exist, some errors may occur when this text is printed. If you specify a DBCS font, the result is unpredictable. Some unexpected characters may be printed, or some errors may occur. 2. *DEFAULT no longer indicates to use the default font of the printer. When *DEFAULT is different from what you want, change it on the Work with Source Overlay Fonts display or the Work with PFD Definition Fonts display.
DBCS font	Specifies a font number. A font number is 1 to 8, and each number is defined in the Work with Source Overlay Fonts or the Work with PFD Definition Fonts display. You can see the list of fonts and select one of them by placing the cursor in this field and pressing F4. See “Font Selection” on page 239 for details. **Note:** It is not checked if the specified font exists and is a DBCS font. If it does not exist, some errors may occur when this text is printed. If you specify a SBCS font, the result is unpredictable. Some unexpected characters may be printed, or some errors may occur.

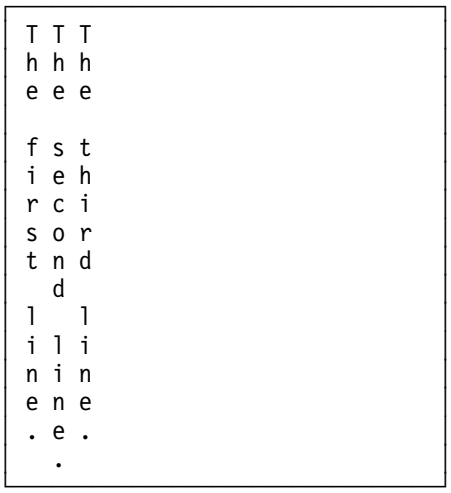
Field Name	Description
Character spacing (Horizontal)	The data specified in the *Horizontal* prompt is used for calculating the horizontal space that the characters of Text data occupy in a box element. When the measurement method is Row/Column, specify *CPI, 5.00, 10.00, 12.00, 13.30, 15.00, 16.70, 18.00, or 20.00. When the measurement method is Inch, specify *CPI or the value in inches from 0.01 to 22.75. When the measurement method is Centimeter, specify *CPI or the value in centimeters from 0.01 to 57.79. The default value is *CPI which is the same value as Characters per inch on the Define Overlay Specifications display or on the Define PFD Specifications display. The value specified in *horizontal* applies only to SBCS fonts. The character space size of DBCS fonts is extracted from the font resource on the AS/400 system. If DBCS data is contained in the text data and the font resource cannot be accessed when creating an overlay or printing a database file member, the text data formatting in the box may not be correct.
Character spacing (Vertical)	The data specified in the *Vertical* prompt is used for calculating the vertical space that the characters of Text data occupy in a box element. When the measurement method is Row/Column, specify *LPI, 3.00, 4.00, 6.00, 7.50, 8.00, 9.00, or 12.00. When the measurement method is Inch, specify *LPI or the value in inches from 0.01 to 22.75. When the measurement method is Centimeter, specify *LPI or the value in centimeters from 0.01 to 57.79. The default value is *LPI which is the same value as Lines per inch on the Define Overlay Specifications display or on the Define PFD Specifications display. The value specified in *Vertical* applies to only SBCS fonts. The character space size of DBCS font is extracted from the font resource on the AS/400 system. If DBCS data is contained in the text data and the font resource cannot be accessed when creating an overlay or printing a database file member, the text data formatting in the box may not be correct.

Formatting Examples

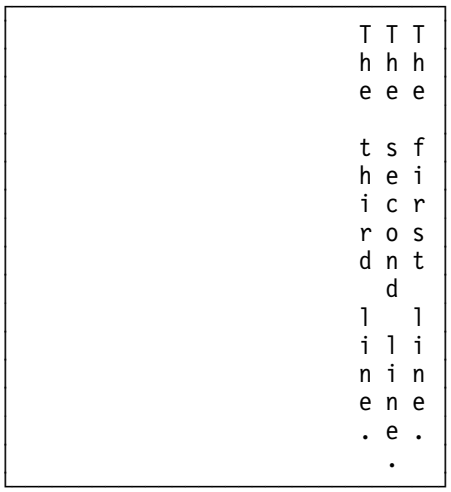
Horizontal Characters are printed from left to right. The following shows an example:

```
The first line.
The second line.
The third line.
```

Vertical Characters are printed vertically from top to bottom. Vertical lines of text are printed from left to right. The following shows an example:



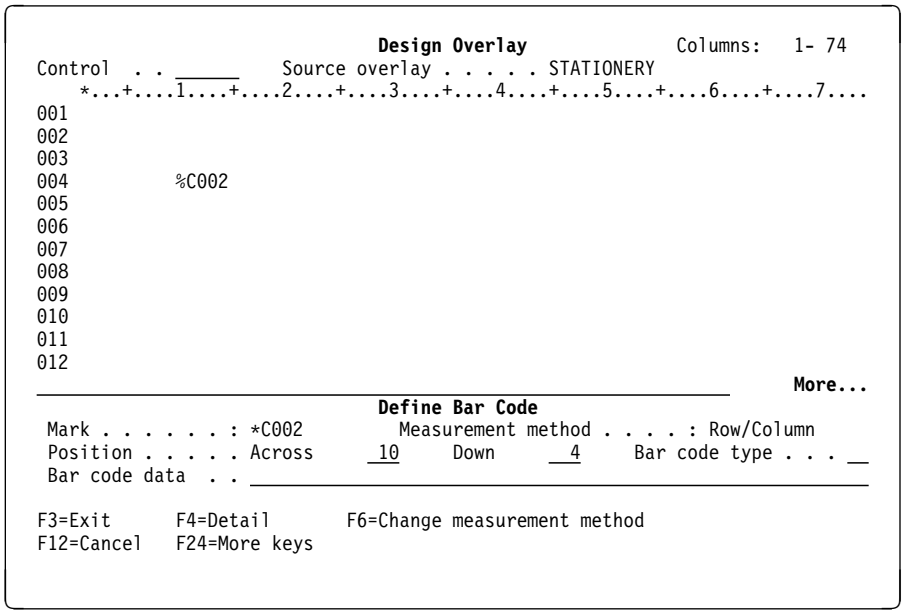
Vertical, right to left Characters are printed vertically from top to bottom. Vertical lines of text are printed from right to left, as the Japanese traditional way of formatting. This is the same meaning as Vertical when there is only one line of text. This choice appears when you are using DBCS data. The following shows an example.



On the Define Box Detail display, type the choices and press Enter, the F3, or F12 key after you specify the parameters. The Design display will be displayed.

Bar Code

You can initiate the define bar code operation by pressing F11 (Bar code) or the change bar code operation by pressing the F14 key with the cursor at a bar code element mark. The key entry area appears replacing the lower part of the image area as shown in the following display.



The following table explains each field in this display.

Field Name	Description
Control	You may move the image area window by entering one of the following commands in this field and pressing Enter: **-n** Backward The image area moves n lines toward the top line of the overlay, the record layout, or the page layout. **+n** Forward The image area moves n lines toward the bottom line of the overlay, the record layout, or the page layout. **W-n** Left The image area moves n columns toward the first column of the overlay, the record layout, or the page layout. **W+n** Right The image area moves n columns toward the last column of the overlay, the record layout, or the page layout. **n** The image area moves to the nth line. **Wn** The image area moves to the nth column. ***TOP** The image area moves to the top line. ***BOT** The image area moves to the bottom line. When designing an overlay, a simulated printout of the overlay can be displayed on the workstation. See the Control field Help for further information and restrictions. ***VIEW** A simulated printout of the overlay will be displayed. This function is not available when designing record layouts and page layouts.
Mark	The element mark is displayed in this field. It could be either a system-assigned mark or a user-assigned name.

Field Name	Description
Measurement method	This field shows the measurement method used to specify the position. You may change this field by pressing the F6 key.
Position	The position parameter consists of across and down values. These values specify the horizontal and vertical position of the element being defined.
Bar Code Type	This field specifies the type of the bar code, including the version if applicable. The following bar code types are available: **Type Description** **1** 3-of-9 code, MHI/AIM USD-3 **2** MSI **3** UPC/CGPC-Version A **4** UPC/CGPC-Version E **5** EAN-8 (includes JAN-short) **6** EAN-13 (includes JAN-standard) **7** 2-of-5 Industrial **8** 2-of-5 Matrix **9** Interleaved 2-of-5 (MHI/AIM USD-1) **10** Codabar (MHI/AIM USD-4). **11** Code128 (AIM USS-128) **12** POSTNET (Postal Numeric Encoding Technique) **13** RM4SCC (Royal Mail Bar Code) **14** JPBC (Japan Postal Bar Code)
Bar Code Data	Whether or not a set of characters or data length is valid depends on the bar code type. You can enter the bar code data in this field, or update the previously entered bar code data that is displayed in this field. You can enter it up to a length of 58 characters. If you need to enter more than 58 characters of bar code data, press F4 (Detail) to enter the Define Bar Code Detail display. If the previously defined bar code data is longer than 58 characters, three periods (...) will be displayed at the end of this field. It means that more bar code data exists. Pressing Enter validates the entered parameters. If they are valid, the define or change takes place. Then the define bar code operation completes and the key entry area disappears from the display. If the data entered does not match the bar code specification, an error message appears on the bottom of the display, the data field image is reversed and the operation does not take place. See “Bar Code Data” on page 259 for more information.

Press the Enter, F3 or F12 key after you specify the parameters, or press the F4 key to specify more parameters.

By pressing the F4 key, the following display appears. You can specify further details of the bar code element.

Note: The content of the Change Bar Code Detail display varies depending on the bar code type, and not all types of bar codes provide all of the following prompts on the display.

```
                          Change Bar Code Detail

Mark:   *C002             Measurement method:   Row/Column

Type choices, press Enter.

  Position:
    Across . . . . . .  10          1-999
    Down . . . . . . .  4           1-999
  Bar code type  . . . . . .  3     1=CODE3OF9, 2=MSI, 3=UPC-A
                                    4=UPC-E, 5=EAN-8, 6=EAN-13
                                    7=INDUST25, 8=MATRIX25
                                    9=INTERL25, 10=CODABAR
                                    11=CODE128, 12=POSTNET
                                    13=RM4SCC, 14=JPBC
  Bar code data  . . . . . .  12345678901
_____________________________________________
  Element  . . . . . .  ____        Name
  Character supplement . . . .  0   0, 2, 5
  Offset:
    Across . . . . . .  _____       Number
  Degree of rotation . . . . .  0   0, 90, 180, 270

                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

Press the Roll Up (Page Down) key to see the next page of the Define Bar Code Detail display.

```
                          Define Bar Code Detail

Mark:   *C002             Measurement method:   Row/Column

Type choices, press Enter.

  Color  . . . . . .  *DEFAULT      *DEFAULT, 1=Blue, 2=Red
                                    3=Magenta, 4=Green, 5=Cyan
                                    6=Yellow, 7=Brown, 8=Black
  Check digit  . . . . . .  N       Y=Yes, N=No
  HRI  . . . . . .  3               1=Below, 2=Above, 3=No
  HRI asterisk . . . . . .  N       Y=Yes, N=No
  HRI font . . . . . .  *DEFAULT    *DEFAULT, 1-8, F4 for list
  Module width . . . . . .  *DEFAULT  *DEFAULT, 0.001-0.254
  Element height . . . . . .  *DEFAULT  *DEFAULT, 0.01-22.75
  Wide to narrow ratio . . . .  *DEFAULT  *DEFAULT, 2.00-3.00

                                                                  Bottom
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

The following table explains each field in this display.

Field Name	Description
Mark	Shows the element mark. A mark is either a system-assigned mark or a user assigned-name, and is the same as that shown on the display. A mark is six characters long, the first character is an asterisk (*), and the last character is a blank. The middle four characters are: • For a system-assigned mark, the middle four characters are one character for the element type followed by a three-digit sequence number. For bar code elements, the element type is C and the sequence number is 001 to 999. • For a user-assigned name, the middle four characters are four characters specified as the value for the element name.
Measurement method	Shows the measurement method used to specify position. You can change this value by pressing F6. You can also select centimeters or inches for the measurement unit in the Define Overlay Specifications display or the Define PFD Specifications display by specifying unit of measure.
Position	Specifies the horizontal and vertical positions of the bar code.
Bar code type	Specifies the name of the bar code including the version if applicable. Bar code types are as follows: **Type Description** **1** 3-of-9 code, MHI/AIM USD-3 **2** MSI **3** UPC/CGPC-Version A **4** UPC/CGPC-Version E **5** EAN-8 (includes JAN-short) **6** EAN-13 (includes JAN-standard) **7** 2-of-5 Industrial **8** 2-of-5 Matrix **9** Interleaved 2-of-5 (MHI/AIM USD-1) **10** Codabar (MHI/AIM USD-4) **11** Code128 (MIM USS-128) **12** POSTNET (Postal Numeric Encoding Technique) **13** RM4SCC (Royal Mail Bar Code) **14** JPBC (Japan Postal Car Code) **Note:** On some printers bar code type 11 (CODE128) and 12 (POSTNET) cannot be printed.
Bar code data	This field specifies the bar code data. See “Bar Code Data” on page 259 for more information.
Element	This field specifies the element name that will appear on the image area instead of the regular bar code mark. The default value is blank to display the regular element mark.
Character supplement	Specifies the character supplement. You can specify one of 0, 2, or 5 as a character supplement. Supplement is supported by type 3, 4, or 6 only.
Offset	Specifies the offset of the start position of supplement characters from the start position of the bar code in the unit of measure specified in the overlay specifications or the PFD specifications. The default value varies depending on the printer type. If you leave this prompt blank, the default value for the printer type is used.

Field Name	Description
POSTNET type	This prompt is displayed when POSTNET is specified as the bar code type. It specifies the symbolic type of POSTNET. The valid bar code data length depends on this value. The allowable types are as follows : **1** ZIP Code (5 digits) **2** ZIP+4 (9 digits) **3** Advanced bar codes (11 digits) **4** Variable length data (up to 100 digits) The default value = 1.
Degree of rotation	Specifies the degrees of rotation of the bar code symbol in terms of an angle measured clockwise from the overlay, the page layout, or the record layout. The default value is 0.
Color	This field specifies the color of the bar code symbol and HRI. The default value is *DEFAULT which specifies the printer default. **Notes:** 1. Not all printers support the color printing function. You are not allowed to enter a value in the *Color* prompt if the printer does not support the color printing. 2. If the printer does not support the color you select, an error occurs or a default color is used when this bar code is printed. You should check which colors are supported on the printer. 3. To use values other than *DEFAULT and 8=Black, you should be aware of the following: • Your printer type must be 1 or 9, and your printer must be able to print the specified color.
Check digit	This field specifies a check digit algorithm to be used. Valid values vary depending on the bar code type. See “Check Digit” on page 262 for more information.
HRI	This field specifies where to place the Human Readable Interpretation (HRI). **1** Place the HRI below the bar code symbol. **2** Place the HRI above the bar code symbol. **3** Place no HRI. **Note:** This value is ignored by the printer depending on the bar code type. For example, • When the bar code type supports only one type of HRI position. • When the bar code type requires HRI.
HRI asterisk	This field specifies whether to print an asterisk or not. **Y** An asterisk is printed in an HRI for 3-of-9 code as start and stop bar and space patterns. **N** An asterisk is not printed in an HRI for 3-of-9 code as start and stop bar and space patterns. The default value is N.

Field Name	Description
HRI font	You can specify an HRI font with a font number between 1 and 8. The actual font used for the number has been defined on the Work with Source Overlay Fonts display or the Work with PFD Definition Fonts display. The default value is *DEFAULT which specifies the printer default when the printer type which supports a bar code is specified. For the printer types which do not support the Bar Code Object Content Architecture, the following code pages and the character sets are used for *DEFAULT: • Code128 **Code page** T1V10500 **Character set** C0S0CR1O • UPCA, UPCE, EAN8, EAN13 **Code page** T1V10500 **Character set** C0L00BOA • Others (Except for POSTNET) **Code page** T1V10500 **Character set** C0L00AOA
Module width	Specifies the module width. A module is the smallest-defined bar code dimension. A valid value for this prompt is *DEFAULT or a number in the unit of measure specified in the overlay specifications or the PFD specifications. The range of valid values is • 0.001 - 0.254 (in inches) • 0.003 - 0.645 (in centimeters) The range of valid module widths varies depending on the bar code type and application. The default value is *DEFAULT.
Element height	Specifies the height of the symbol bar and space elements. A valid value is *DEFAULT or a number in the unit of measure specified in the overlay specifications or the PFD specifications. The range of valid values is • 0.01 - 22.75 (in inches) • 0.01 - 57.79 (in centimeters) For the UPC, CGPC, EAN and JAN bar code types, the total symbol height includes both bar and space patterns and HRI. The default value is *DEFAULT.
Wide to narrow ratio	Specifies the ratio of the Bar Code wide-element dimension to the narrow-element dimension when there are only two different-size elements. The wide-to-narrow ratio is not applicable to the UPC or the EAN codes. The ratio for the MSI is always 2.00 regardless of the value specified in this prompt. If this prompt is left blank, the printer default value *DEFAULT is used.

After you specify the parameters, press Enter, the F3, or F12 key. The Design display is displayed.

Bar Code Data: The following explains the *Bar code data* prompt in detail. The valid set of characters and data lengths depend on the bar code type.

For a record layout of the printout format definition (PFD definition), you can enter a variable data field as "&<field name>.". You can see the list of fields and select

one of them by placing the cursor in the *Bar code data* prompt and pressing the F4 key. The following shows valid characters and data lengths for each bar code type:

- 3-of-9 code, MHI/AIM USD-3

  The following characters are valid.

  ```
  0123456789
  ABCDEFGHIJKLMNOPQRSTUVWXYZ
  -.$/+% blank
  ```

  The length of data can be up to 100 characters. When you want to add trailing spaces, enclose the data with apostrophes as follows:

  ```
  'ABC      '
      └────┘
        └── Trailing space
  ```

- MSI

  The following characters are valid.

  ```
  0123456789
  ```

  The length of data can be up to 15 characters for no check digit, up to 14 for 1 check digit, and up to 13 for 2 check digits. Specify the check digit through the define bar code detail operation. The default is no check digit.

- UPC/CGPC-Version A

  The following characters are valid.

  ```
  0123456789
  ```

  The length of data can be 11, 13, or 16 characters. The first digit is the number-system digit. The next 10 digits are the article-number digits. If the length of data is 13 characters, the last 2 digits are interpreted as the UPC two-character supplement. If the length of data is 16 characters, the last 5 digits are interpreted as the UPC five-character supplement.

- UPC/CGPC-Version E

  The following characters are valid.

  ```
  0123456789
  ```

  The length of data can be 10, 12, or 15 characters. From the first 10 digits, the printer generates both the check digit and the six characters to be bar-coded. The check digit is not bar-coded. It is used only to assign odd or even parity to the six bar-coded digits.

  If the length of data is 12 characters, the last 2 digits are interpreted as the UPC two-character supplement. If the length of data is 15 characters, the last 5 digits are interpreted as the UPC five-character supplement.

- EAN-8 (includes JAN-short)

  The following characters are valid.

  ```
  0123456789
  ```

  The length of data can be 7 characters.

- EAN-13 (includes JAN-standard)

  The following characters are valid.

  ```
  0123456789
  ```

The length of data can be 12, 14, or 17 characters. The first 2 digits are two flag digits. The next 10 digits are the article-identification digits. The first flag digit is not bar-coded. The second flag digit that the article-identification digit and a check digit generated by the printer are bar-coded.

If the length of data is 14 characters, the last 2 digits are interpreted as the EAN two-digit add-on. If the length of data is 17 characters, the last 5 digits are interpreted as the EAN five-digit add-on.

- 2-of-5 industrial

  The following characters are valid.

  ```
  0123456789
  ```

  The length of data can be up to 100 characters.

- 2-of-5 matrix

  The following characters are valid.

  ```
  0123456789
  ```

  The length of data can be up to 100 characters.

- Interleaved 2-of-5 (MHI/AIM USD-1)

  The following characters are valid.

  ```
  0123456789
  ```

  The length of data can be up to 100 characters.

- Codabar (MHI/AIM USD-4)

  The following characters are valid.

  ```
  0123456789
  -$:/.+ABCD
  ```

  The length of data can be up to 100 characters. The characters A, B, C, and D shall be used only as start and stop delimiters.

- CODE128

  All ASCII 128 character set values are valid, and the data length is variable.

- POSTNET

  The following characters are valid.

  ```
  0123456789
  ```

  You can specify the following POSTNET type:

  1 ZIP Code (The maximum length is 5 digits)
  2 ZIP+4 (9 digits)
  3 Advanced bar codes (11 digits)
  4 Variable length data (up to 100 digits)

- RM4SCC

  The following characters are valid.

  ```
  0123456789
  ABCDEFGHIJKLMNOPQRSTUVWXYZ
  ```

  The length of data can be from 5 to 12 characters.

The Royal Mail Bar Code (RM4SCC) consists of four parts; the International Prefix (optional), the Outward Code (required), the Inward Code (required), and the Delivery Point Suffix (optional).

The International Prefix, when used, contains three numeric digits.

The Outward Code contains from two to four characters in one of the following seven forms where A is alphabetic and N is numeric:

```
ANA
AAN
AANN
AANA
AN
ANN
AAA
```

The Inward Code contains one numeric character followed by two alphabetic characters.

The Delivery Point Suffix, when used, contains one numeric digit followed by one alphabetic character other than C, I, K, M, O, and V.

- JPBC

  The following characters are valid.

  ```
  0123456789
  ABCDEFGHIJKLMNOPQRSTUVWXYZ
  -
  ```

  The length of data can be from 7 to 50 characters.

  For additional information about JPBC bar code data, press the Help key with the cursor in the Bar code data prompt on the Define Bar Code or Change Bar Code display. For a complete set of rules, see the Japan Postal Bar Code Command Specifications.

Check Digit: The following explains the *Check digit* prompt in detail.

- 3-of-9 code, 2-of-5 Industrial, 2-of-5 Matrix, Interleaved 2-of-5, Codabar, CODE128.

  Y Generates a check character and prints it with the bar code.

  N Prints the bar code with no printer-generated check character.

  The default value is N.

- MSI

  1 Prints the bar code with IBM modulo-10 check digit generated by the printer, and places this check digit at the end of the data. IBM modulo-10 check digit is the second check digit.

  2 Prints the bar code with both check digits generated by the printer, and places them at the end of the data. The first and second check digits are IBM modulo-10.

  3 Prints the bar code with both check digits generated by the printer, and places them at the end of the data. The first check digit is NCR modulo-11. The second check digit is IBM modulo-10. The remainder equals the check digit. A check digit of 10 is an error.

4 Prints the bar code with both check digits generated by the printer, and places them at the end of the data. The first check digit is IBM modulo-11. The second check digit is IBM modulo-10. The remainder equals the check digit. A check digit of 10 is an error.

5 Prints the bar code with both check digits generated by the printer, and places them at the end of the data. The first check digit is NCR modulo-11. The second check digit is IBM modulo-10. The remainder subtracted from 11 equals the check digit. A check digit of 10 is zero.

6 Prints the bar code with both check digits generated by the printer, and places them at the end of the data. The first check digit is IBM modulo-11. The second check digit is IBM modulo-10. The remainder subtracted from 11 equals the check digit. A check digit of 10 is zero.

7 Prints the bar code with both check digits generated by the printer, and places them at the end of the data. The first check digit is NCR modulo-11. The second check digit is IBM modulo-10. The remainder subtracted from 11 equals the check digit. A check digit of 10 is an error.

8 Prints the bar code with both check digits generated by the printer, and places them at the end of the data. The first check digit is IBM modulo-11. The second check digit is IBM modulo-10. The remainder subtracted from 11 equals the check digit. A check digit of 10 is an error.

N Prints the bar code with no printer-generated check character.

The default value is N.

- Others

  For other bar code types, this field is ignored. A default value is not available.

Page Segment

Note: Some printers do not support IOCA image (of page segment). See “Limitations for Each Printer” on page 414 for detail. AFP Utilities support only IOCA function set 10.

To specify a page segment in the overlay, first move the cursor to the start position of the page segment, and press F13 (Place). The following display appears.

```
                              Design Overlay             Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          %
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit           F6=Place graphics   F9=Place page segment   F12=Cancel
F24=More keys
Press F6 or F9 to place graphics or page segment.
```

Press the F9 key to select the page segment to be placed. Then the % mark changes to the %Snnn (where nnn is 001 through 999) and the key entry area appears at the lower part of the image area as shown in the following display.

```
                              Design Overlay             Columns:   1- 74
Control  . . ______     Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          %S003
005
006
007
008
009
010
011
012
                                                                        More...
                              Place Page Segment
 Mark . . . . . : *S003         Measurement method . . . . : Row/Column
 Position . . . . . Across      10     Down      4
 Page Segment . . . ________ Name

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

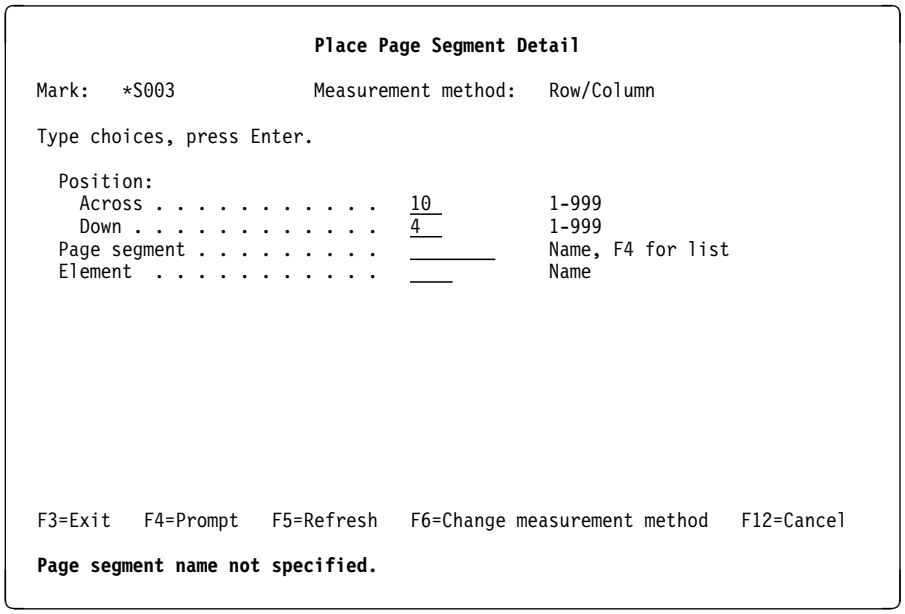
The following table explains each field in this display.

Field Name	Description
Control	You may move the image area window by entering one of the following commands in this field and pressing Enter: **-n** Backward The image area moves n lines toward the top line of the overlay, the record layout, or the page layout. **+n** Forward The image area moves n lines toward the bottom line of the overlay, the record layout, or the page layout. **W-n** Left The image area moves n columns toward the first column of the overlay, the record layout, or the page layout. **W+n** Right The image area moves n columns toward the last column of the overlay, the record layout, or the page layout. **n** The image area moves to the nth line. **Wn** The image area moves to the nth column. ***TOP** The image area moves to the top line. ***BOT** The image area moves to the bottom line. When designing an overlay, a simulated printout of the overlay can be displayed on the workstation. See the Control field Help for further information and restrictions. ***VIEW** A simulated printout of the overlay will be displayed. This function is not available when designing record layouts and page layouts.
Mark	The element mark is displayed in this field. It could be either a system-assigned mark or a user-assigned name.
Measurement method	This field shows the measurement method used to specify the position. You may change this field by pressing the F6 key.
Position	The position parameter consists of across and down values. These values specify the horizontal and vertical position of the element being defined.
Page Segment	You need to enter the name of the desired page segment. Then press Enter to complete the place page segment operation.

Press Enter, the F3, or F12 key after you specify the parameters, or press the F4 key to specify more parameters.

By pressing the F4 key, the following display appears. You can enter the page segment name in the following display and complete the operation, or obtain the list of page segments by pressing the F4 key in the Page segment field.

Note: The Overlay Utility and the Print Format Utility do not verify whether the page segment you specified exists in the resource library or not because the page segment does not need to exist at this time. See “Page Segment” on page 389 and “Page Segment” on page 392 for more information.


Place Page Segment Detail
Mark: *S003
Measurement method: Row/Column
Type choices, press Enter.
Position:
Across 10 1-999
Down 4 1-999
Page segment . . . . . Name, F4 for list
Element . . . . . Name
F3=Exit F4=Prompt F5=Refresh F6=Change measurement method F12=Cancel
Page segment name not specified.

The following table explains each field in this display.

Field Name	Description
Mark	Shows the element mark. A mark is either a system-assigned mark or a user assigned-name, and is the same as that shown on the display. A mark is six characters long and the first character is an asterisk (*) and the last character is a blank. The middle four characters are: • For a system-assigned mark, the middle four characters are one character for the element type followed by a three-digit sequence number. For page segment elements, the element type is S and the sequence number is 001 to 999. • For a user-assigned name, the middle four characters are four characters specified as the value for the element name.
Measurement method	Shows the measurement method used to specify position. You can change this value by pressing F6. You can also select centimeters or inches for the measurement unit on the Define Overlay Specifications display or the Define PFD Specifications display by specifying unit of measure.
Position	This field specifies the horizontal and vertical positions of the page segment element.
Page segment	Specifies a page segment name. By pressing F4 with the cursor in this field, the following display appears: • When you are designing a record layout, the Select Field in Record Format display appears to select a variable data field name from the field list of the database file. Then press the F11 key to show the Select Page Segment display to select an existing page segment object from the list. • When you are designing an overlay or a page layout, the Select Page Segment display appears to select an existing page segment object from the list. See “Select Page Segment” on page 267 for the next operation.
Element	Specifies the element name that appears on the image area instead of a regular page segment element mark, such as *S003. The default value is blank which is to display the regular element mark.

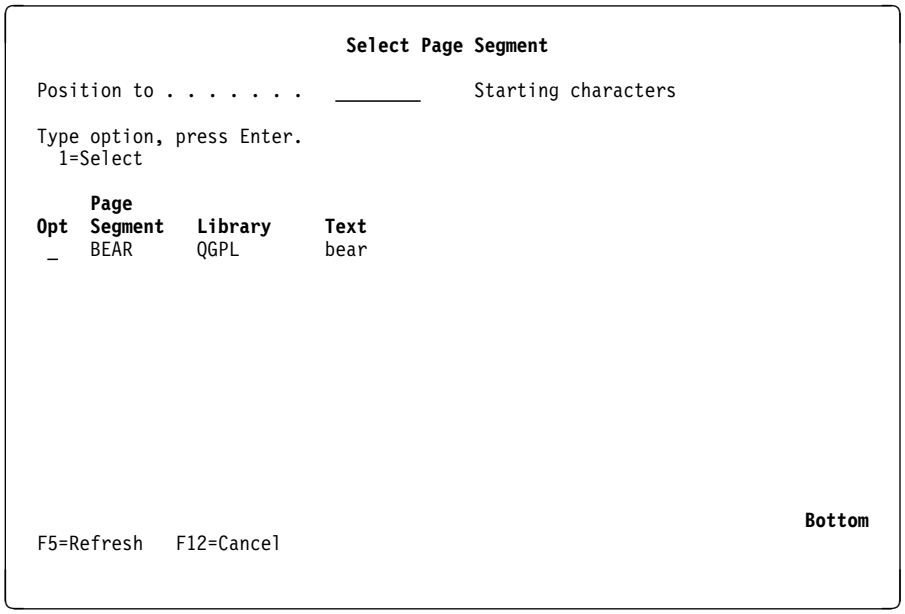
Press Enter, the F3, or F12 key after you specify the parameters. The Design display will be displayed.

Select Page Segment: When you are designing a record layout, the Select Field in Record Format display appears to select a variable data field name from the field list of the database file. If a variable field name is selected, the contents of the field will be substituted as the page segment name or will be mapped to a page segment name by the Specify Mapping Object Name function.

```
                        Select Field in Record Format

Database file  . . . . . :   MLTFMT
  Library  . . . . . . . :     SENDAI
Record Format  . . . . . :   MLTFMT

Type an option, press Enter.
  1=Select

Opt  Field       Length  Type  Text
 _   AREA             8    C    Area products developed
 _   PRICE            3    P    Price of the product
 _   PRODCT          12    C    Product name
 _   SIZE             4    P    Size

                                                                      BOTTOM
F5=Refresh   F11=Select Object              F12=Cancel
```

Then press the F11 key to show the Select Page Segment display to select an existing page segment object from the list.

When you are designing an overlay or a page layout, and you press F4 (Detail) in the Place Page Segment Detail display with the cursor in the *Page segment* prompt, the following display appears to select a page segment name. In the following display, you can select a page segment name by entering 1 in the *Opt* column and pressing Enter.



The Select Page Segment display shows the list of page segments in the libraries in the library list. You can select a page segment by typing 1 in the *Opt* column next to the *Page Segment* column and pressing Enter.

Note: The library name is not passed, and it is not guaranteed that the page segment is retrieved from the library. It depends on the contents of the library list when a spooled file is created. See “Page Segment” on page 389 and “Page Segment” on page 392 for more information.

Field Name	Description
Position to	This prompt is used to go to a particular area in the list. Use to reposition the list, not to create a subset of the list. Choose from the following: ***TOP** Go to the top of the list. ***BOT** Go to the bottom of the list. **Name or partial Name** Specifies the name or partial name you want to go to in the list. The list is positioned to the first name beginning with the string specified.
1=Select	Specifies what page segment is used for a source overlay or a printout format definition (PFD definition).
Opt	Specify 1 to select a page segment.
Page segment	Shows the page segment name.
Library	Shows the library name in which the page segment resides.
Text	Shows you the description of the page segment.

Specify Variable Page Segment: You can specify a variable page segment in a record layout. See “Specify Mapping Object Name” on page 185 for more information.

Graphics

Note: Some printers do not support graphics. See “Limitations for Each Printer” on page 414 for detail.

To specify a graphics element in the overlay, first move the cursor to the start position of the graphics element, and press F13 (Place). The following display appears.

```
                                Design Overlay              Columns:   1- 74
Control  . . _____    Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          %
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                          More...
F3=Exit      F5=Refresh        F6=Place graphics   F9=Place page segment
F12=Cancel   F15=Mark on/off   F16=Hide            F24=More keys
Press F6 or F9 to place graphics or page segment.
```

Press the F6 key to select the graphics to be placed. The % mark changes to the %Gnnn (where nnn is 001 through 999) as follows:

```
                                Design Overlay              Columns:   1- 74
Control  . . _____    Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          %G003
005
006
007
008
009
010
011
012
013
014
015
016
017
                                                                          More...
F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
Specify opposite corner of graphics block and press F6
```

Move the cursor to the bottom-right corner of the graphics area to specify the size, and press the F6 key again. The key entry area appears at the lower part of the image area as shown in the following display:

```
                              Design Overlay              Columns:   1- 74
Control  . . ______    Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          %G003-----------------------------+
005          :                                 :
006          :                                 :
007          :                                 :
008          :                                 :
                                                                        More...
                              Place Graphics
 Mark . . . . . . . : *G003         Measurement method . . . . : Row/Column
 Start position . . Across      10     Down      4
 End position . . . Across      41     Down      14
 Source object type .   _          1=PC document, 2=File



F3=Exit   F5=Refresh   F6=Change measurement method   F12=Cancel
F15=Mark on/off        F16=Hide   F19=Left            F20=Right
```

When you specify '2=File' as the source object type, the following display appears:

```
                              Design Overlay              Columns:   1- 74
Control  . . ______    Source overlay . . . . . STATIONERY
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004          %G003-----------------------------+
005          :                                 :
006          :                                 :
007          :                                 :
008          :                                 :
                                                                        More...
                              Place Graphics
 Mark . . . . . . . : *G003         Measurement method . . . . : Row/Column
 Start position . . Across      10     Down      4
 End position . . . Across      41     Down      14
 Source object type .2          1=PC document, 2=File
 File . . . . . . . ._________  Name
  Library . . . . . *LIBL_____  Name, *LIBL, *CURLIB
 Member . . . . . .*FIRST_____  Name, *FIRST

F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

The following table explains each field in these displays.

Field Name	Description
Control	You may move the image area window by entering one of the following commands in this field and pressing Enter: **-n** Backward The image area moves n lines toward the top line of the overlay, the record layout, or the page layout. **+n** Forward The image area moves n lines toward the bottom line of the overlay, the record layout, or the page layout. **W-n** Left The image area moves n columns toward the first column of the overlay, the record layout, or the page layout. **W+n** Right The image area moves n columns toward the last column of the overlay, the record layout, or the page layout. **n** The image area moves to the nth line. **Wn** The image area moves to the nth column. ***TOP** The image area moves to the top line. ***BOT** The image area moves to the bottom line. When designing an overlay, a simulated printout of the overlay can be displayed on the workstation. See the Control field Help for further information and restrictions. ***VIEW** A simulated printout of the overlay will be displayed. This function is not available when designing record layouts and page layouts.
Mark	The element mark is displayed in this field. It could be either a system-assigned mark or a user-assigned name.
Measurement method	This field shows the measurement method used to specify the position. You may change this field by pressing the F6 key.
Start position	The start position parameter consists of across and down values. These values specify the horizontal and vertical position of the upper left corner of the element being defined.
End position	The end position parameter consists of across and down values. These values specify the horizontal and vertical position of the lower right corner of the element being defined. **Note:** Start position and End position determine the size of the graphics data to be printed. The graphics data will be mapped to the size when printed.
Source object type	Type 1 (PC document) or 2 (File) to specify the source object type.
Folder	Specifies the folder name where the PC document resides.
PC document	Specifies the PC document name which contains the graphics data. **Note:** Folder and PC Document prompts replace File, Library, and member prompts when '1=PC Document' is selected as the Source object type.
File	Specifies the file name where the member resides.
Library	Specifies the library name where the file resides.
Member	Specifies the member name which contains the graphics data.

Press Enter after you specify the parameters, press the F4 key to specify more parameters, or press F3 or F12 to cancel the operation.

By pressing the F4 key, one of the following displays appears. You can enter the data in the following display and complete the operation, or obtain the list of the folders, the PC documents, the files, the libraries, or members by pressing the F4 key in each field.

Note: The Overlay Utility and the Print Format Utility do not verify whether the name you specified exists in the resource library or not because the graphics does not need to exist at this time. It will be checked when an overlay is created or a database file is printed with the PFD definition. When you specify '1=PC Document' as the source object type, then press F4, the following display appears:

```
                          Place Graphics Detail

Mark:   *G003             Measurement method:   Row/Column

Type choices, press Enter.

  Start position:
    Across . . . . . .   10             1-999
    Down . . . . . . .   4              1-999
  End position:
    Across . . . . . .   41             1-999
    Down . . . . . . .   14             1-999
  Source object type . . . . .  1       1=PC document, 2=File
  Folder . . . . . . . . . . .  ____________________________________________
_____________                         Name
  PC document  . . . . . .    ________  Name, F4 for list
  Element  . . . . . . . .    ____      Name
  Degree of rotation . . . .  0         0, 90, 180, 270
  Font . . . . . . . . . . .  *DEFAULT   *DEFAULT, 1-8, F4 for list


                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

When you specify '2=File' as the source object type, the following display appears:

```
                          Place Graphics Detail

Mark:   *G003             Measurement method:   Row/Column

Type choices, press Enter.

  Start position:
    Across . . . . . .   10             1-999
    Down . . . . . . .   4              1-999
  End position:
    Across . . . . . .   41             1-999
    Down . . . . . . .   14             1-999
  Source object type . . . . .  2       1=PC document, 2=File
  File . . . . . . . . . . .    _____   Name, F4 for list
    Library  . . . . . .      *LIBL     Name, *LIBL, *CURLIB
  Member . . . . . . . . . .  *FIRST    Name, *FIRST, F4 for list
  Element  . . . . . . . .    ____      Name
  Degree of rotation . . . .  0         0, 90, 180, 270
  Font . . . . . . . . . . .  *DEFAULT   *DEFAULT, 1-8, F4 for list


                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F6=Change measurement method   F12=Cancel
```

The following table explains each field in these displays.

Field Name	Description
Mark	Shows the element mark. A mark is either a system-assigned mark or a user assigned-name, and is the same as that shown on the display. A mark is six characters long and the first character is an asterisk (*) and the last character is a blank. The middle four characters are: • For a system-assigned mark, the middle four characters are one character for the element type followed by a three-digit sequence number. For graphics elements, the element type is G and the sequence number is 001 to 999. • For a user-assigned name, the middle four characters are four characters specified as the value for the element name.
Measurement method	Shows the measurement method used to specify position. You can change this value by pressing F6. You can also select centimeters or inches for the measurement unit on the Define Overlay Specifications display or the Define PFD Specifications display by specifying unit of measure.
Start position	The start position parameter consists of across and down values. These values specify the horizontal and vertical position of the upper left corner of the element being defined.
End position	The end position parameter consists of across and down values. These values specify the horizontal and vertical position of the lower right corner of the element being defined. **Note:** Start position and End position determine the size of the graphics data to be mapped.
Source object type	Type 1 (PC document) or 2 (File) to specify the source object type.
Folder	Specifies the folder name where the PC document resides.
PC document	Specifies the PC document name which contains the graphics data.
File	Specifies the file name where the member resides.
Library	Specifies the library name where the file resides.
Member	Specifies the member name which contains the graphics data.
Element	Specifies the element name that appears on the image area instead of a regular graphics element mark, such as *G003. The default value is blank which is to display the regular element mark.
Degree of rotation	Specifies the degrees of rotation of the graphics in terms of an angle measured clockwise from the overlay, page layout, or record layout. The default value is 0.
Font	Specifies a font number. Font can be specified as 1 to 8, or *DEFAULT. Each number or *DEFAULT is defined in the Work with Source Overlay Fonts or the Work with PFD Definition Fonts display. You can see the list of fonts and select one of them by placing the cursor in this field and pressing F4. **Note:** It is not checked if the specified font exists and is a SBCS font. If it does not exist, some errors may occur when this graphics element is printed. If you specify a DBCS font, the result is unpredictable. Some unexpected characters may be printed, or some errors may occur.

Press Enter after you specify the parameters, press the F4 key to specify more parameters, or press F3 or F12 to cancel the operation.

Select Field in Record Format (Graphics): If you press F4 (Detail) in the Place Graphics Detail display when the cursor is in the *Folder, PC document, Library, File*, or *Member* prompt, the following occurs:

	Designing a Source Overlay or a Page Layout	Designing a Record Layout
Folder	Not supported	The Select Field in the Record Format display is displayed.
PC document	You can select a PC document on the Select Document display which shows the list of PC documents existing in the specified folder.	The Select Field in Record Format display is displayed. You can switch to the Select Document display by pressing the F11 key. To return, press the F11 key again.
File	You can select a database file on the Select Database File display which shows the list of database files existing in the specified library.	The Select Field in Record Format display is displayed. You can switch to the Select Database File display by pressing the F11 key. To return, press the F11 key again.
Library	Not supported	The Select Field in Record Format display is displayed.
Member	You can select a member on the Select Database File member display which shows the list of members existing in the specified library and file.	The Select Field in Record Format display is displayed. You can switch to the Select Database File Member display by pressing the F11 key. To return, press the F11 key again.

```
                        Select Field in Record Format

Database file  . . . . . :   MLTFMT
  Library  . . . . . . . :     SENDAI
Record Format  . . . . . :   MLTFMT

Type an option, press Enter.
  1=Select

Opt  Field       Length  Type  Text
 _   AREA             8    C    Area products developed
 _   PRICE            3    P    Price of the product
 _   PRODCT          12    C    Product name
 _   SIZE             4    P    Size

                                                                      BOTTOM
F5=Refresh   F11=Select Object              F12=Cancel
```

Specify Variable Graphics: You can specify a variable graphics element in a record layout. See “Specify Mapping Object Name” on page 185 for more information.

Record Layout

To specify a record layout in the page layout, first move the cursor to the position of the record layout, and press F13 (Place). The following display appears.

```
                            Design Page Layout           Columns:   1- 74
Control  . . ______    PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005     %
006
007
008
009
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit   F6=Place graphics   F9=Place page segment
F11=Place record layout       F12=Cancel   F24=More keys
Press F6, F9 or F11 for graphics, page segment or record layout.
```

Press the F11 key to select the record layout to be placed. The % mark changes to **%Rnnn-001** (where nnn is 001 through 999) and the key entry area appears at the lower part of the image area shown in the following display.

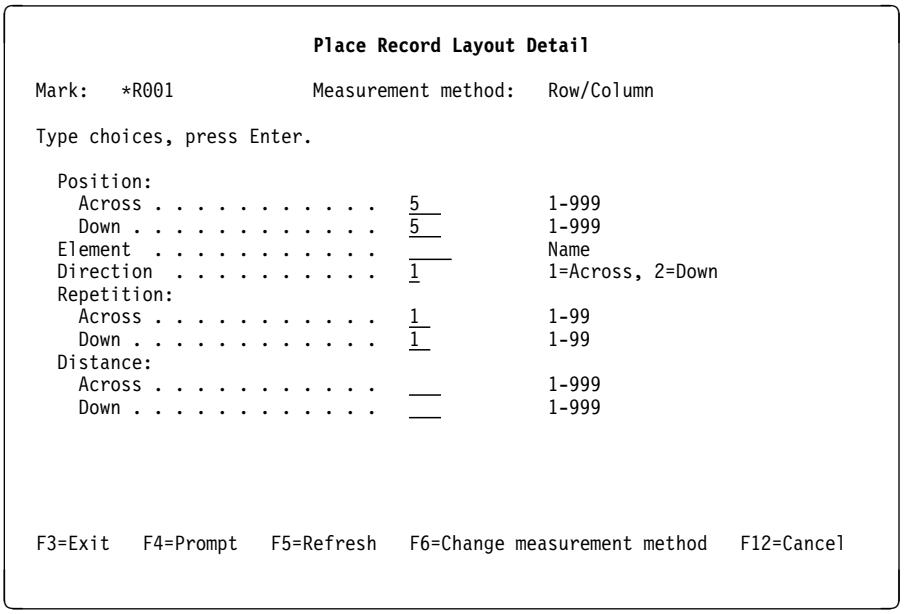
```
                            Design Page Layout           Columns:   1- 74
Control  . . ______    PFD definition . . . . . PRODUCTLBL
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005     %R001-001
006
007
008
009
010
011
012
                                                                        More...
                           Place Record Layout
 Mark . . . . . : *R001        Measurement method . . . . : Row/Column
 Position . . . . . Across     __5     Down      __5


F3=Exit      F4=Detail       F6=Change measurement method
F12=Cancel   F24=More keys
```

The following table explains each field in this display.

Field Name	Description
Control	You may move the image area window by entering one of the following commands in this field and pressing Enter: **-n** Backward The image area moves n lines toward the top line of the overlay, the record layout, or the page layout. **+n** Forward The image area moves n lines toward the bottom line of the overlay, the record layout, or the page layout. **W-n** Left The image area moves n columns toward the first column of the overlay, the record layout, or the page layout. **W+n** Right The image area moves n columns toward the last column of the overlay, the record layout, or the page layout. **n** The image area moves to the nth line. **Wn** The image area moves to the nth column. ***TOP** The image area moves to the top line. ***BOT** The image area moves to the bottom line. When designing an overlay, a simulated printout of the overlay can be displayed on the workstation. See the Control field Help for further information and restrictions. ***VIEW** A simulated printout of the overlay will be displayed. This function is not available when designing record layouts and page layouts.
Mark	The element mark is displayed in this field. It could be either a system-assigned mark or a user-assigned name.
Measurement method	This field shows the measurement method used to specify the position. You may change this field by pressing the F6 key.
Position	The position parameter consists of across and down values. These values specify the horizontal and vertical positions of the element being defined.

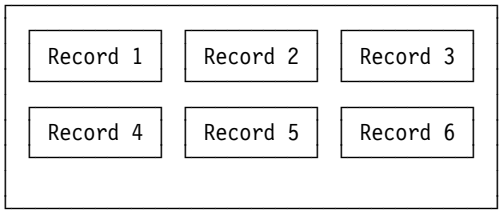
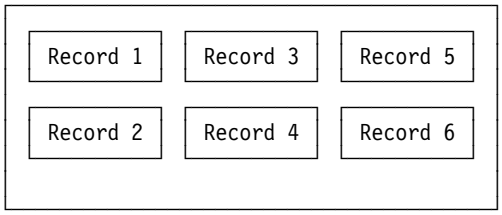
Press Enter, the F3, or F12 key after you specify the parameters, or press the F4 key to specify more parameters.

By pressing the F4 key, the following display appears.


Place Record Layout Detail
Mark: *R001
Measurement method: Row/Column
Type choices, press Enter.
Position:
Across 5 1-999
Down 5 1-999
Element . . . . . Name
Direction . . . . . 1 1=Across, 2=Down
Repetition:
Across 1 1-99
Down 1 1-99
Distance:
Across 1-999
Down 1-999
F3=Exit F4=Prompt F5=Refresh F6=Change measurement method F12=Cancel

From this display, you can specify further detail characteristics of the place record element. For example, you can specify the direction, repetition, and distance.

Field Name	Description
Mark	Shows the element mark. A mark is either a system-assigned mark or a user assigned-name, and is the same as that shown on the display. A mark is six characters long and the first character is an asterisk (*) and the last character is a blank. The middle four characters are: • For a system-assigned mark, the middle four characters are one character for the element type followed by a three-digit sequence number. For record elements, the element type is R and the sequence number is 001 to 999. • For a user-assigned name, the middle four characters are four characters specified as the value for the element name. **Note:** Because the record layout may be placed repeatedly, when it is placed on the page layout, each mark for record layouts is followed by a repetition number from 001 to 999.
Measurement method	Shows the measurement method used to specify position. You can change this value by pressing F6. You can also select centimeters or inches for the measurement unit in the Define PFD Specifications display by specifying unit of measure.
Position	Specifies the horizontal and vertical positions of the record layout.
Element	An element name is 1 to 4 characters in length. If an element name is specified (not blank) for an element, the element mark is displayed as an asterisk (*) followed by the element name.

Field Name	Description
Direction	Records can be repeated in two directions. Select one of the following for the direction: **1** Across (from left to right first and then from top to bottom.) The following is an example:  **2** Down (from top to bottom first and then from left to right.) The following is the example: 
Repetition Across	Specifies how many times records are repeated on the page horizontally.
Repetition Down	Specifies how many times records are repeated on the page vertically.
Distance Across	Specifies the horizontal distance between records.
Distance Down	Specifies the vertical distance between records.

The following figure shows the position and the distance of the record in the page layout.

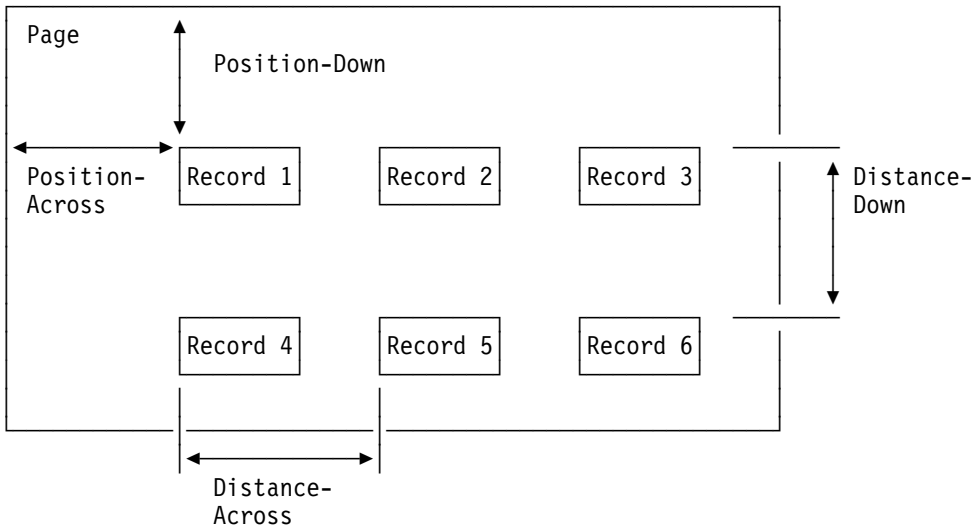


Figure 30. Position and Distance of the Record in the Page Layout

Press Enter, the F3, or F12 key after you specify the parameters. You return to the Design display.

Copy, Move, and Remove an Existing Element

In the screen view, you can copy, move, or remove the existing elements on the image area.

Element Edit

You can copy, move, or remove a single element through the element edit operation. The following example explains how to copy an element.

Step 1. Scroll the window to display the element to be edited.

Step 2. Place the cursor at the element mark to be edited.

Step 3. Press the F21 key to begin the element edit operation. In the following example, `*T001` is selected as the element for the element edit. The asterisk (*) changes to a percent (%) to show the source element, and the function keys for the element edit appear at the lower part of the image area as follows.

```
                                  Design Overlay              Columns:   1- 74
Control  . . _____    Source overlay . . . . . SAMPLE
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005
006          %T001 s an example.
007
008
009
010
011
012
013
014
015
016
017
_____                                                                  More...
F3=Exit      F6=Copy    F9=Move     F10=Remove
F12=Cancel   F19=Left   F20=Right   F24=More keys
Specify destination, press F6, F9, or F10.
```

Step 4. To remove the element, press F10. To copy or move the element, move the cursor to the position where the selected element is to be copied (or moved). Page up or down to position the screen if necessary.

Step 5. To copy or move the element, press one of the following function keys:

Copy F6
Move F9

The element is copied, moved, or removed, and the element edit operation is complete.

```
                                Design Overlay              Columns:   1- 74
Control  . . ______    Source overlay . . . . . SAMPLE
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005
006          *T001 s an example.
007
008
009               *T002 s an example.
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit        F6=Text            F9=Line          F10=Box
F11=Bar code   F21=Element edit   F22=Block edit   F24=More keys
One element copied.
```

Block Edit

You can copy, move, or remove multiple elements in a rectangular area at one time with the block edit function. The elements displayed without an element mark or hidden under the other elements can also be edited by this function. The following example explains how to copy, move, or remove the elements:

Step 1. Scroll the window to display the elements to be edited.

Step 2. Place the cursor at one corner of the rectangular area that contains the elements to be edited.

Step 3. Press the F22 key to begin the block edit operation and specify one corner of the rectangular area. A % sign appears at the cursor position.

```
                                Design Overlay              Columns:   1- 74
Control  . . ______    Source overlay . . . . . SAMPLE
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005         %
006          *T001 s an example.
007
008
009               *T002 s an example.
010
011
012
013
014
015
016
017
                                                                        More...
F3=Exit   F5=Refresh   F12=Cancel   F15=Mark on/off
F16=Hide  F19=Left     F20=Right    F22=Block edit
Specify opposite corner of block and press F22.
```

Step 4. Move the cursor to the opposite corner of the rectangular area. Scroll the window if necessary.

Note: The lines, boxes, and graphics need to be completely contained in the rectangular area. The element types need only to have the starting position (the asterisk part) of the element mark within the rectangular area.

Step 5. Press the F22 key again to specify the other corner of the rectangular area. The area is enclosed by equal (=) signs. The equal signs can overlay any element. The % mark shows the origin of the area to be copied, moved, or removed.

```
                                 Design Overlay              Columns:   1- 74
Control  . . _____    Source overlay . . . . . SAMPLE
    *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
001
002
003
004
005         %========================
006         =*T001 s an example.     =
007         =                        =
008         =                        =
009         =     *T002 s an example.=
010         ========================
011
012
013
014
015
016
017
_____                                                                More...
F3=Exit      F6=Copy    F9=Move     F10=Remove
F12=Cancel   F19=Left   F20=Right   F24=More keys
Specify destination, press F6, F9, or F10.
```

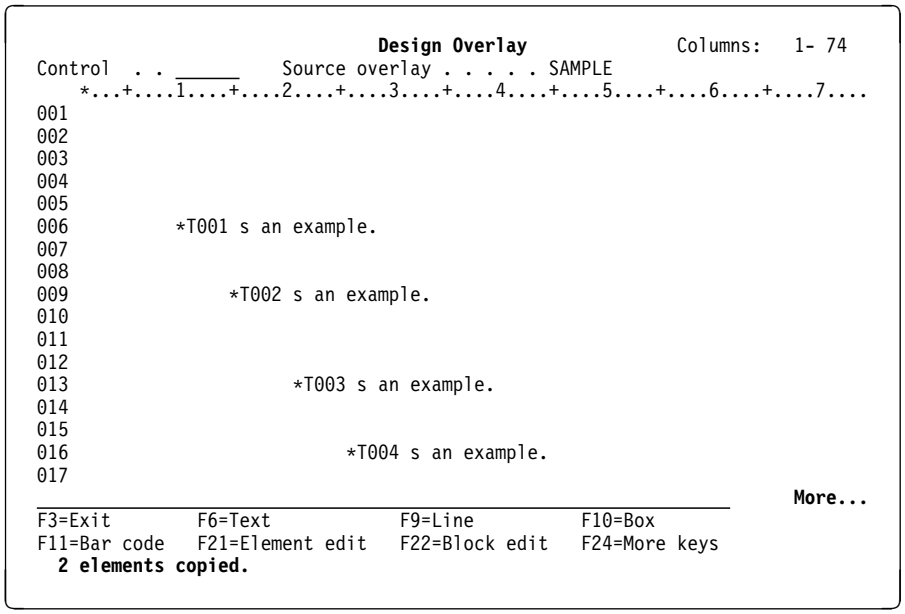
Step 6. To remove the elements, press F10. To copy or move the elements, move the cursor to the corner of the destination area which is the same corner as the origin of the area to be copied or moved. This can be any corner of the rectangular area. Scroll the window if necessary.

Step 7. Press one of the following function keys to copy or move the elements in the rectangular area.

Copy F6
Move F9

The elements in the rectangular area are copied, moved, or removed.

If the F6 key is pressed the following display appears.



Changing Elements in the List View

In addition to the screen view, the Overlay Utility and the Print Format Utility have the list view to define an element. You can easily change between the list view and the screen view by pressing the F17 key.

In the list view, you can see and change all the element definitions. The list view is useful for making minor changes to the elements that are already defined in the overlay, the record layout, or the page layout. The list view can also be used to create new elements. Creating new elements may be easier to do in the screen view which shows an approximate image.

Layout of the List View

The list view can display up to 16 elements at a time. To display more elements, scroll the window vertically. Each element shows up to 44 characters in the parameter field. To display the rest of the parameter field, scroll the window horizontally. The parameter field contains only the mandatory parameters for each element. To display or change other parameters, go to the Change Detail display by placing the cursor on the line of the element and pressing the F14 key, then the F4 key.

The following shows an example of the list view display.

```
                              Design Overlay
Control  . . ______    Source overlay . . . . . STATIONERY

NBR  ID  NAME  M  ACROSS  DOWN    Parameters
001  T        1     32      2    FONT=0   AS/400 Stationery Co., Ltd.
002  T        1     19      4    FONT=0   Standard Stationery Supply List
003  L        1     19      5    END ACROSS=    50   END DOWN  =     5
004  B        1      5      7    END ACROSS=    60   END DOWN  =    26
005  L        1      5     24    END ACROSS=    60   END DOWN  =    24
006  L        1      5     22    END ACROSS=    60   END DOWN  =    22
007  L        1      5     20    END ACROSS=    60   END DOWN  =    20
008  L*       1      5     18    END ACROSS=    60   END DOWN  =    18
009  L        1      5     16    END ACROSS=    60   END DOWN  =    16
010  L        1      5     14    END ACROSS=    60   END DOWN  =    14
011  L        1      5     12    END ACROSS=    60   END DOWN  =    12
012  L        1      5     10    END ACROSS=    60   END DOWN  =    10
013  T        2    0.7   1.83    FONT=0   Ball Point Pen
014  T   PEN  1      7     13    FONT=0   Pencil
015  T        1      7     15    FONT=0   Eraser
016  T        1      7     17    FONT=0   Ruler
                                                                  More...
F3=Exit   F4=Sort        F6=Text     F9=Line
F10=Box   F11=Bar code   F13=Place   F24=More keys
```

The following table explains each field in this display.

Field Name	Description
Control	You can move the list view window by entering one of the following commands in this field and pressing Enter. **-n** Backward The list moves n lines toward the top line. **+n** Forward The list moves n lines toward the bottom line. **W-n** Left The *Parameters* column moves n columns toward the left. **W+n** Right The *Parameters* column moves n columns toward the right. **n** The line moves to the nth line. **Wn** The *Parameters* column moves to the nth column. ***TOP** The list moves to the top line. ***BOT** The list moves to the bottom line. **Note:** When *TOP or *BOT is in the Control field, function keys are disabled. When designing an overlay, a simulated printout of the overlay can be displayed on the workstation. See the Control field Help for further information and restrictions. ***VIEW** A simulated printout of the overlay will be displayed. This function is not available when designing record layouts and page layouts.
NBR	This is a sequence number field. The elements' sequence numbers are listed in ascending order unless the list has been sorted by NAME, ACROSS, or DOWN fields. Also, this field is used to enter element edit commands.

Field Name	Description
ID	This is the element type field. If the element is temporarily removed by the remove element operation, an asterisk appears in the second character position. No input is allowed in this field.
NAME	This is an element name field. This field holds up to 4 characters of the element name that you assigned. If the element does not have a name, this field is left blank. No input is allowed in this field.
M	This field shows the two measurement methods used to specify the position. **1** Row/Column is used. **2** Inch or centimeter is used. No input is allowed in this field.
ACROSS	This is the horizontal position of the element. If the *M* column is 1 (Measurement method is Row/Column), this column has an integer value between 1 and 999. If the *M* column is 2 (Measurement method is inch or centimeter), this field has one of the following values depending on the unit of measure specified on the Define Overlay Specifications display or the Define PFD Specifications display: **Unit of measure** **Value** **Inch** 0 to 22.75 **Centimeter** 0 to 57.79 **Note:** The maximum value depends on the size of the overlay or the page layout. No input is allowed in this field.
DOWN	This is the vertical position of the element. If the *M* column is 1 (Measurement method is Row/Column), this column has an integer value between 1 and 999. If the *M* column is 2 (Measurement method is inch or centimeter), this field has one of the following values depending on the unit of measure specified on the Define Overlay Specifications display or the Define PFD Specifications display: **Unit of measure** **Value** **Inch** 0 to 22.75 **Centimeter** 0 to 57.79 **Note:** The maximum value depends on the size of the overlay or the page layout. No input is allowed in this field.

Field Name	Description
Parameters	Displayed parameters depend on the element type. These parameters are needed for each element: • Text The font value is displayed. For SBCS systems, the value is displayed as "FONT=F", where F is 0 for the default font or 1 - 8 for a specified font local ID. For text elements on DBCS systems, the value is displayed as "SBCS FONT=F" if the element does not have a DBCS font specified, and "SBCS FONT=F DBCS FONT=F" if the element does have a DBCS font specified. The text data is displayed after the font value. There are three spaces between the font value and the first text character. • Line End position is displayed. • Box End position is displayed. If text is specified with the box, the font value and the text are also displayed after the end position. • Bar code If HRI is to be printed, the HRI font value is displayed. The bar code data follows the font value. There are three spaces between the font value and the bar code data. • Page segment Page segment name is displayed. • Graphics End position is displayed. • Record layout None. No input is allowed in this field. You can display other parameters when you change the element on the Change Detail display.

Create or Change the Element

You can not enter or change parameters directly on the list. However, you can define new elements or change existing elements through the create or change element operation easily and efficiently.

Create

To define a new element in the list view, do the following.

Step 1. Press one of the following function keys depending on the type of element regardless of the cursor position.

Text	F6
Line	F9
Box	F10
Bar Code	F11
Graphics	F13 then F6
Page segment	F13 then F9
Record layout	F13 then F11

The key entry area appears at the lower part of the display. The remainder of the create element operation is the same as that in the screen view.

Step 2. Press the F4 key to specify the other parameters if necessary.

Step 3. After completing the parameter specification, press Enter to complete the create element operation. The newly created element has a sequence number one greater than that of the last element created, and is added to the bottom of the list.

Change

To change an existing element, do the following.

Step 1. Place the cursor on the line of the element to be changed.

Step 2. Press the F14 key. The key entry area appears at the lower part of the display. The remainder of the change element operation is the same as the create element operation, except that the parameters appear on the key entry area with the values previously specified.

Step 3. Press the F4 key to specify the other parameters if necessary.

Step 4. After completing the parameter specification, press Enter to complete the change element operation. The list reflects the changes of the element.

Sort Element List

On the list edit panel, when F4 is pressed with the cursor positioned in the NBR field, the NAME field, the ACROSS field, or the DOWN field, the list is sorted according to the contents of the field and re-displayed.

If the measurement method is not the same for all elements in the list, the list cannot be sorted by the ACROSS field or DOWN field.

If the cursor is positioned in the name field, elements which have nothing shown in the field will be assigned a name consisting of the one-character ID followed by the three-character number displayed in the NBR field. This is the same as the element mark displayed in screen edit mode without the asterisk. The name assigned will not be displayed.

Elements added to a sorted list will be added at the bottom of the list. Elements which are changed in a sorted list will remain in the same list position until the list is sorted again.

Copy, Move, Remove, or Restore

In the list view, you can copy, move, or remove the existing elements using the element edit function. You can restore removed elements, which is impossible in the screen view.

Element Edit

To copy, move, remove, or restore an element, do the following:

Step 1. Place the cursor in the *NBR* column on the line of the element to be copied, moved, removed, or restored on the image area.

Step 2. Type one of the following commands and press the Enter key. The operation to be executed is determined by the option selected.

C Copies the element.

The key entry area appears at the lower part of the display, and you can specify the position in the *Across* prompt and the *Down* prompt of the new element.

The newly created element is added after the last line of the list and the display scrolls to show the new element. The original element is not affected by the copy.

M Moves the element.

The key entry area appears at the lower part of the display, and you can specify the position in the *Across* prompt and the *Down* prompt to specify the new position of the element.

R Removes the element.

The removed mark (*) appears in the *ID* column. The remove operation does not affect the removed element or other remaining elements. In the screen view, the removed elements do not appear on the image area, and you cannot change them. However, in the list view, they appear in the image area with an asterisk in the *ID* column. Removed elements are not printed.

S Restores the element.

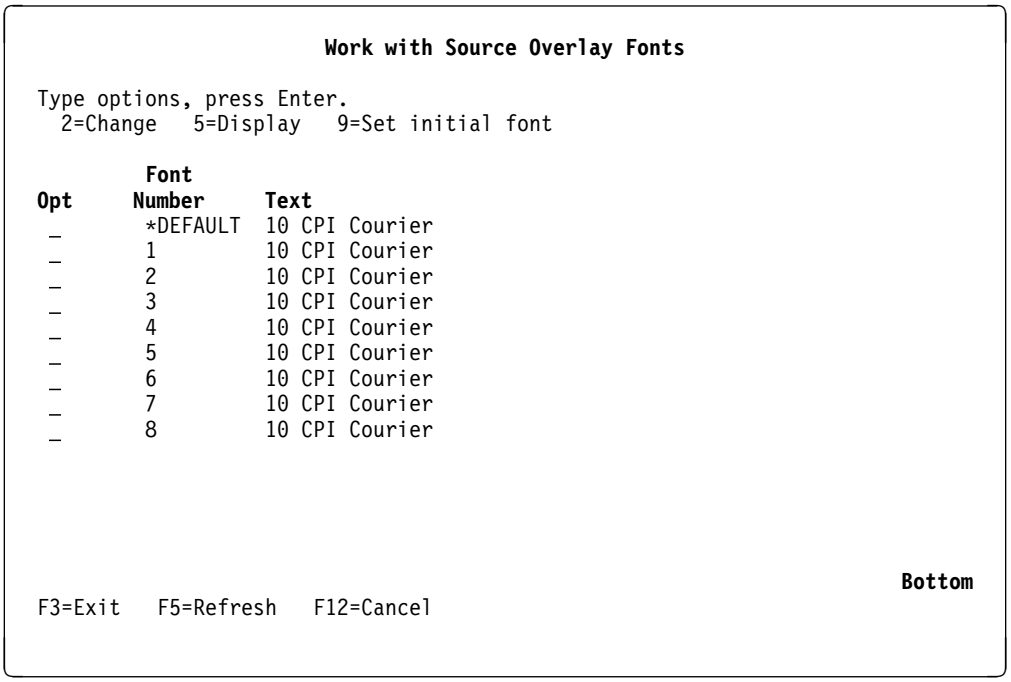
The removed mark '*', shown in the *ID* column, disappears. In the screen view, the restored elements appear in the image area and they can be changed.

Step 3. Press Enter. (This step is needed for copy and move operations only.)

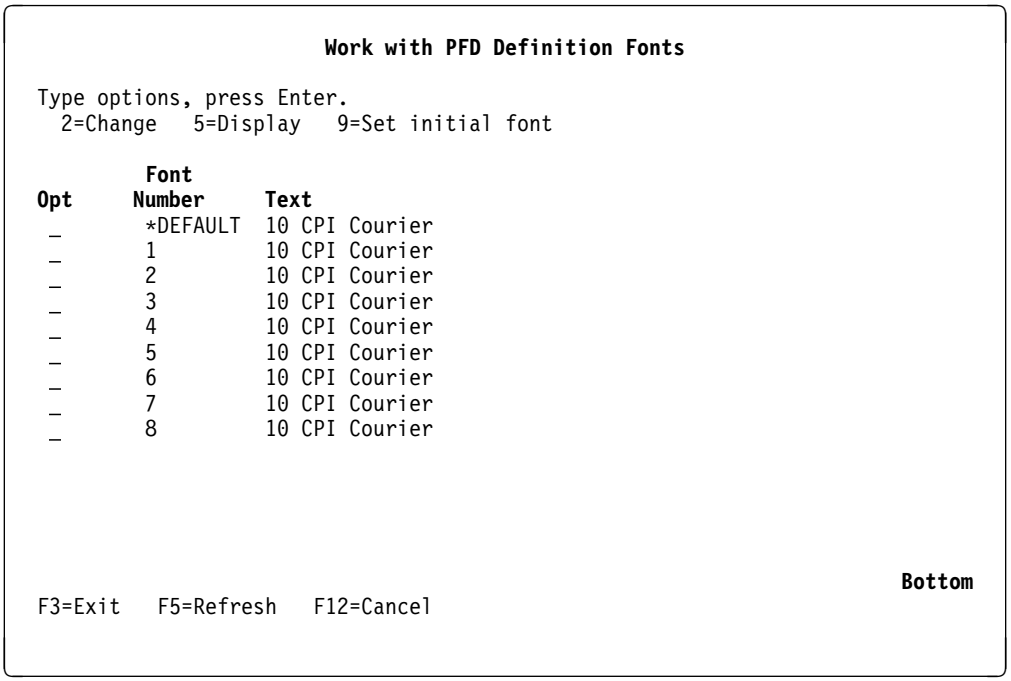
The selected element is copied or moved.

Chapter 14. Work with Fonts

This chapter describes what you can specify for the fonts on the Work with Source Overlay Fonts display and on the Work with PFD Definition Fonts display.



```
                        Work with Source Overlay Fonts

Type options, press Enter.
  2=Change   5=Display   9=Set initial font

          Font
Opt     Number     Text
 _       *DEFAULT  10 CPI Courier
 _       1         10 CPI Courier
 _       2         10 CPI Courier
 _       3         10 CPI Courier
 _       4         10 CPI Courier
 _       5         10 CPI Courier
 _       6         10 CPI Courier
 _       7         10 CPI Courier
 _       8         10 CPI Courier




                                                                      Bottom
F3=Exit   F5=Refresh   F12=Cancel
```



```
                        Work with PFD Definition Fonts

Type options, press Enter.
  2=Change   5=Display   9=Set initial font

          Font
Opt     Number     Text
 _       *DEFAULT  10 CPI Courier
 _       1         10 CPI Courier
 _       2         10 CPI Courier
 _       3         10 CPI Courier
 _       4         10 CPI Courier
 _       5         10 CPI Courier
 _       6         10 CPI Courier
 _       7         10 CPI Courier
 _       8         10 CPI Courier




                                                                      Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

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You can specify the source overlay fonts and the PFD definition fonts in the same way. Only the display title changes depending on the fonts you work with.

The examples that follow refer to PFD Definition Fonts, and they also apply to Source Overlay Fonts.

For each element (text, bar codes with HRI, or box containing text) on the Design Overlay, Design Record Layout, or Design Page Layout screens that requires a font, the font is specified with a font number or font local identifier (1-8) or *DEFAULT. In this display, you can specify which font is actually used for each font local ID.

Fonts are stored either in the printer (printer-resident) or on the AS/400 system (host-resident). Printer-resident fonts are selected by using a Font Global ID (FGID), while host-resident fonts are selected either by using a coded font name or a combination of a code page and character set. The FGID is a number, such as 011 for Courier or 5687 for Times New Roman. Most printers have an operations panel option that will print out all of the printer-resident fonts along with the FGID number.

Host-resident fonts are AS/400 objects and are stored in AS/400 system libraries. For example, there is a set of 240 dots per inch (dpi) IBM Compatibility fonts that are shipped with OS/400 and reside in the QFNTCPL library. With printers supporting 240 dpi, 300 dpi, and 600 dpi print resolutions, the IBM Compatibility fonts are probably insufficient for most applications. The IBM AFP Font Collection (5648-113) is a comprehensive set of AFP fonts supporting all of the various printer resolutions as well as the most common type styles used in business documents. Fonts for 240 dpi and 300 dpi resolutions are raster or bitmapped fonts. This means that each character is comprised of a pattern of dots. Each character set contains all of the characters required (these characters can vary because there are over 48 different languages supported within the AFP Font Collection). There is a different character set for each point size and each typeface to be used. Refer to Appendix I, “Font Samples” on page 465 for samples of the most commonly used font character sets. For example, character set C0H40060 is a Helvetica Roman Bold 6-point while C0H400Z0 is Helvetica Roman Bold 36-point.

The IBM AFP Font Collections also contains outline (scalable) fonts. With outline fonts, each character is represented by a series of vectors. As a result, one character set can be “scaled” to any point size. For example, the outline character set for Helvetica Roman Bold is CZH400. This one character set can print characters in any point size. With a printer that supports host-resident outline fonts, this font is downloaded to the printer and the printer will scale the characters as required.

The two types of fonts, printer-resident and host-resident, can be specified in three different ways within AFP/U:

- Font Global ID (FGID)
- Coded Font Name
- Code Page and Character Set Name

The coded font name is, in essence, the same as a code page and character set name. A coded font name is simply a shorthand notation for a code page and character set name combination. The code page is a table that facilitates certain country and character differences. For example, the code page T1V10037 is a

standard US English code page while the code page T1V10285 is a standard United Kingdom English code page. There are minor differences in the text produced by using either of these code pages.

The following table explains the Work with Source Overlay Fonts display and the Work with PFD Definition Fonts display.

Field Name	Description
2=Change	This option allows you to change the definition of a font. Type 2 (Change) in the *Opt* column beside the font you want to change.
5=Display	This option allows you to display the definition of a font.
9=Set initial font	This option allows you to change the definition of a font to the initial values.
Opt	Specify the option number next to one or more font numbers to perform the options, one after another.
Font number	Shows the font number of each font. Font number is always 1 - 8 or *DEFAULT.
Text	Shows the description of the font.

Note: An error message is displayed when the font type you select using option 2 (Change) or option 9 (Set default) causes a conflict. The conflict occurs because the selected font type cannot be used with the values specified for the printer type or other prompts of some elements. In such cases, by pressing the Enter key again, the system changes the values for the prompts as follows:

New Font Type	Printer Type	Element	Prompt (Affected)	Old Value (You Specified)	New Value (System Changed)
1	2	Text, Box	Format	2, 3	1
2	4, 5, 6	Text, Box	Overstrike	Other than blank	Blank
2	4, 5, 6	Text, Box	Underline	Y	N
2, 3	2	Text	Character size	Other than *DEFAULT	*DEFAULT

2=Change Font

To change the font, do the following on the Work with Source Overlay Fonts display or the Work with PFD Definition Fonts display.

1. Type 2 in the *Opt* column beside the font number you want to change.
2. Press Enter.

The following display appears:

```
                          Change PFD Definition Font

Font number  . . . . . :   1

Type choice, press Enter.

  Font type  . . . . . .   1          1=Font and character identifier
                                      2=Coded font
                                      3=Code page and font character set









F3=Exit   F5=Refresh   F12=Cancel
```

Specify 1, 2, or 3 and press Enter.

The following table explains the Change Source Overlay Font display and the Change PFD Definition Font display.

Field Name	Description
Font number	Shows the font number of the font being changed.
Font type	Specifies a font type if you want to change the way to specify a font. See “Fonts” on page 458 for more information about font type.

The display that appears next is different depending on your choice for the *Font type* prompt.

Some fonts reside in the printer, while some fonts reside in the system and are downloaded to the printer. To use the former fonts, type 1 in the *Font type* prompt. To use the latter fonts, type 2 or 3. Those fonts that reside in the system consist of three objects:

Coded font
: Has an object type *FNTRSC with attribute CDEFNT. Coded fonts for SBCS fonts contain a code pair consisting of a code page name and

font character set name. Coded fonts for DBCS fonts contain many pairs of code page names and font character set names.

To use an SBCS font that resides in the system, you can specify either a coded font name or a pair of code page name and font character set name. To use a DBCS font that resides in the system, you must specify a coded font name.

Code page

Has an object type *FNTRSC with attribute CDEPAG. A code page has many code points and their corresponding character identifiers. Character identifiers are mapped to corresponding character patterns by a font character set.

Font character set

Has an object type *FNTRSC with attribute FNTCHRSET. A font character set has many character identifiers and their corresponding character patterns.

The WRKFNTRSC command shows you a list of font resources. Most fonts reside in libraries that have names that start with QFNT.

Change Font (Font Type=1): When you choose 1 for the *Font type* prompt, the following display appears.

```
                          Change PFD Definition Font

 Font number  . . . . . :   1
 Font type  . . . . . . :   1          Font and character identifier

 Type choices, press Enter.

   Font:
     Identifier . . . . . .   11         1-65535
     Point size . . . . . .   *NONE       0.1-999.9, *NONE
   Character identifier:
     Graphic character set  . .   *SYSVAL    1-32767, *SYSVAL
     Code page  . . . . . .       _____      1-32767
   Text 'description' . . . . .   10 CPI Courier
____

 F3=Exit   F5=Refresh   F12=Cancel
```

Using this display, you can change the font identifier, point size, graphic character set, code page, and the description text.

Field Name	Description
Font number	Shows the font number of the font being changed.
Font type	Shows the font type you specified in the previous display.
Identifier	Specifies the font identifier. You can specify a number from 1 to 65535 for your font.

Field Name	Description
Point size	Specifies the point size. You can use a value from 0.1 to 999.9 for your point size.
Graphic character set	Specifies the graphic character identifier. You can use a number from 1 to 32767. You can also specify *SYSVAL.
Code page	Specifies the code page. You can type a number from 1 to 32767 for your code page.
Text	Specifies the description for this font. This is just a remark and is helpful to you when you select a font from the list.

See the description of the CRTPRTF command in the *CL Reference* for more information about these parameters.

Change Font (Font Type=2): When you choose 2 for the *Font type* prompt, the following display appears.

```
                          Change PFD Definition Font

Font number  . . . . . :   1
Font type  . . . . . . :   2          Coded font

Type choices, press Enter.

  Coded font . . . . . .   ________   Name, F4 for list
  Point size . . . . . .   *NONE      0.1-999.9, *NONE
  Text 'description' . . .   ____________________________________________
____

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

Using this display you can change the coded font to use, point size for outline fonts, and description text.

The following table explains the Change Source Overlay Font display and the Change PFD Definition Font display.

Option	Description
Font number	Shows the font number of the font being changed.
Font type	Shows the font type you specified in the previous display.
Coded font	Specifies a coded font name. To display a selection list of all coded fonts in library QFNTCPL and all libraries in your library list, press F4 with the cursor in this field.
Point size	Specifies the point size you want. You can use a value from 0.1 to 999.9 for the point size. 1 point is equal to 1/72 inch. Point size is only valid for outline fonts. The value will be ignored for raster fonts.

Option	Description
Text	Specifies the description for this font. This is just a remark and is helpful to you when you select a font from the list. This field is automatically filled with the description text of the coded font if this field is blank when a coded font is selected from the list in the display shown by pressing F4.

Change Font (Font Type=3): When you choose 3 for the *Font type* prompt, the following display appears.

```
                        Change PFD Definition Font

 Font number  . . . . . . . . . :   1
 Font type  . . . . . . . . . . :   3          Code page and font character set

 Type choices, press Enter.

   Code page  . . . . . . . . .   ________   Name, F4 for list
   Font character set . . . . .   ________   Name, F4 for list
   Point size . . . . . . . . .   *NONE      0.1-999.9, *NONE
   Text 'description' . . . . .   ____________________________________________
____




 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

Using this display you can change the code page, font character set, point size for outline fonts, and description text.

The following table explains the Change Source Overlay Font display and the Change PFD Definition Font display.

Field Name	Description
Font number	Shows the font number of the font being changed.
Font type	Shows the font type you specified in the previous display.
Code page	Specifies a code page name. To display a selection list of all code pages in library QFNTCPL and all libraries in your library list, press F4 with the cursor in this field.
Font character set	Specifies a font character set. To display a selection list of all font character sets in library QFNTCPL and all libraries in your library list, press F4 with the cursor in this field.
Point size	Specifies the point size you want. You can use a value from 0.1 to 999.9 for the point size. 1 point is equal to 1/72 inch. Point size is only valid for outline fonts. The value will be ignored for raster fonts.

Field Name	Description
Text	Specifies the description for this code page and font character set. This is just a remark and is helpful to you when you select a code page or font character set from the list. When a code page is selected from the list, this field is automatically filled with the description text of the code page if this field is blank. When a font character set is selected from the list, this field is automatically filled with the description text of the font character set if this field is blank.

5=Display Font

To display the font, do the following on the Work with Source Overlay Fonts display or the Work with PFD Definition Fonts display.

1. Type 5 in the *Opt.* column beside the font number you want to display.
2. Press Enter.

Display Font (Font Type=1)

```
                        Display PFD Definition Font

Font number  . . . . . :   1
Font type  . . . . . . :   1          Font and character identifier
Font:
  Identifier . . . . . :   11
  Point size . . . . . :   *NONE
Character identifier:
  Graphic character set  . . :   *SYSVAL
  Code page  . . . . . :
Text . . . . . :   10 CPI Courier









Press Enter to continue.

F3=Exit   F12=Cancel
```

On this display, you can see the definition of a type 1 font in detail.

Field Name	Description
Font number	Shows the font number.
Font type	Shows the font type (Font and character identifier)
Identifier	Shows the font identifier.
Point size	Shows the point size.
Graphic character set	Shows the graphic character set.
Code page	Shows the code page number.
Text	Shows the description of the font.

Display Font (Font Type=2)

```
                        Display PFD Definition Font

Font number  . . . . . . . . . :   1
Font type  . . . . . . . . . . :   2          Coded font
Coded font . . . . . . . . . . :   X0GB12
Point size . . . . . . . . . . :   *NONE
Text . . . . . . . . . . . . . :   BOLD 12 CPI









Press Enter to continue.

F3=Exit   F12=Cancel
```

This display shows the definition of a type 2 font.

The following table explains the Display Source Overlay Font display and the Display PFD Definition Font display.

Field Name	Description
Font number	Shows the font number.
Font type	Shows the font type (Coded font)
Coded font	Shows the coded font name.
Point size	Shows the point size.
Text	Shows the description of the font.

Display Font (Font Type=3)

```
                        Display PFD Definition Font

Font number  . . . . . :   1
Font type  . . . . . :   3          Code page and font character set
Code page  . . . . . :   T1D0BASE
Font character set . . . . . :   C0D0DB10
Point size . . . . . :   *NONE
Text . . . . . :   GOTHIC ROMAN BOLD 10 POINTS









Press Enter to continue.

F3=Exit   F12=Cancel
```

This display shows the definition of a type 3 font.

The following table explains the Display Source Overlay Font display and the Display PFD Definition Font display.

Field Name	Description
Font number	Shows the font number.
Font type	Shows the font type (Code page and font character set)
Code page	Shows the code page name.
Font character set	Shows the font character set name.
Point size	Shows the point size.
Text	Shows the description of the font.

9=Set Initial Font

To change the definition of a font to the initial values, do the following on the Work with Source Overlay Fonts display or the Work with PFD Definition Fonts display.

1. Type 9 in the *Opt.* column beside the font number for which you want to change the definition.
2. Press Enter.

Resource Management Utility

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4=Delete Page Segments 345
6=Print Page Segment 346
7=Rename Page Segment 348
8=Display Page Segment Description 348
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Chapter 15. Introduction to the Resource Management Utility (RMU)

The **Resource Management Utility** is one of the AFP Utilities that allows you to manage the AFP resources, such as overlay objects, that are created by the Overlay Utility or page segments interactively.

The Resource Management Utility has the following three functions:

- Convert to page segment
- Working with overlays
- Working with page segments

Converting to an AS/400 Page Segment

When you want to place images in an overlay or you want to print a page which contains some images such as signatures or logos, you need to store these images on the AS/400 system as page segments before you use them with the Overlay Utility or the Print Format Utility.

This function allows you to create a page segment from the following:

- An AS/400 database file member that contains an Image Object Content Architecture (IOCA) function set 10 image.
- A PC document that contains an Image Object Content Architecture (IOCA) function set 10 image and is stored in an AS/400 folder using the Client Access for AS/400 shared folder function.

To create a page segment from a file containing an image data stream (IMDS) image, use the CRTPAGSEG command.

Converting to a Page Segment from an AS/400 Database File

When your AS/400 system is connected to a System/370 through a communication line, you can create a page segment from a database file of image data by the following steps:

1. Use a System/370 image application to create an image of an IOCA function set 10 image.
2. Store the image in a System/370 file.
3. Send the image data from the System/370 system to the AS/400 system.
4. Receive the image data as a physical file member.
5. Start the Resource Management Utility (STRAFPU command).
6. Select Convert to page segment (option 21).

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Converting to a Page Segment from a PC Document

When you create a page segment from a PC document, do the following to create a PC document:

1. Use a PC image application program to create an IOCA function set 10 image.
2. Store it in the AS/400 folder as a PC document using the Client Access for AS/400 shared folder function.
3. Start the Resource Management Utility (STRAFPU command).
4. Select Convert to page segment (option 21).

The following figure shows the process of converting to page segment.

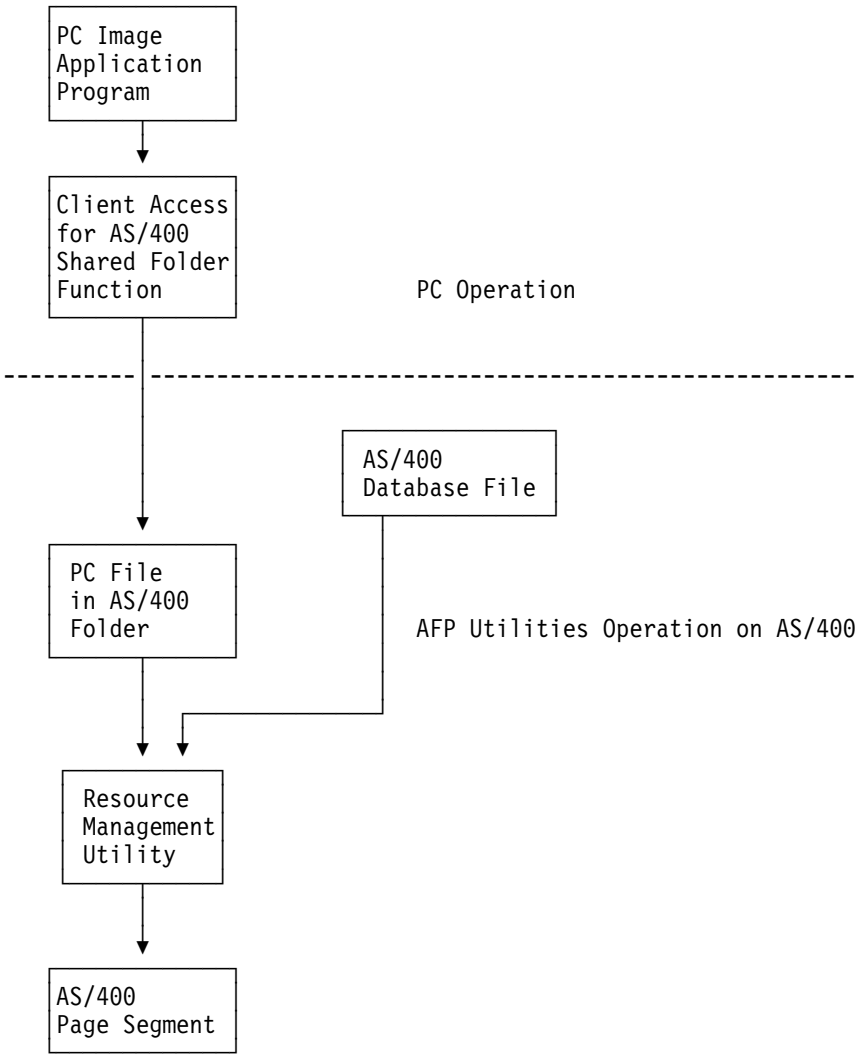
PC Image Application Program
Client Access for AS/400 Shared Folder Function
PC Operation
AS/400 Database File
PC File in AS/400 Folder
AFP Utilities Operation on AS/400
Resource Management Utility
AS/400 Page Segment

Figure 31. Process of Converting to Page Segment

The page segment created and stored in the resource library by the Resource Management Utility can be used to create the following examples.

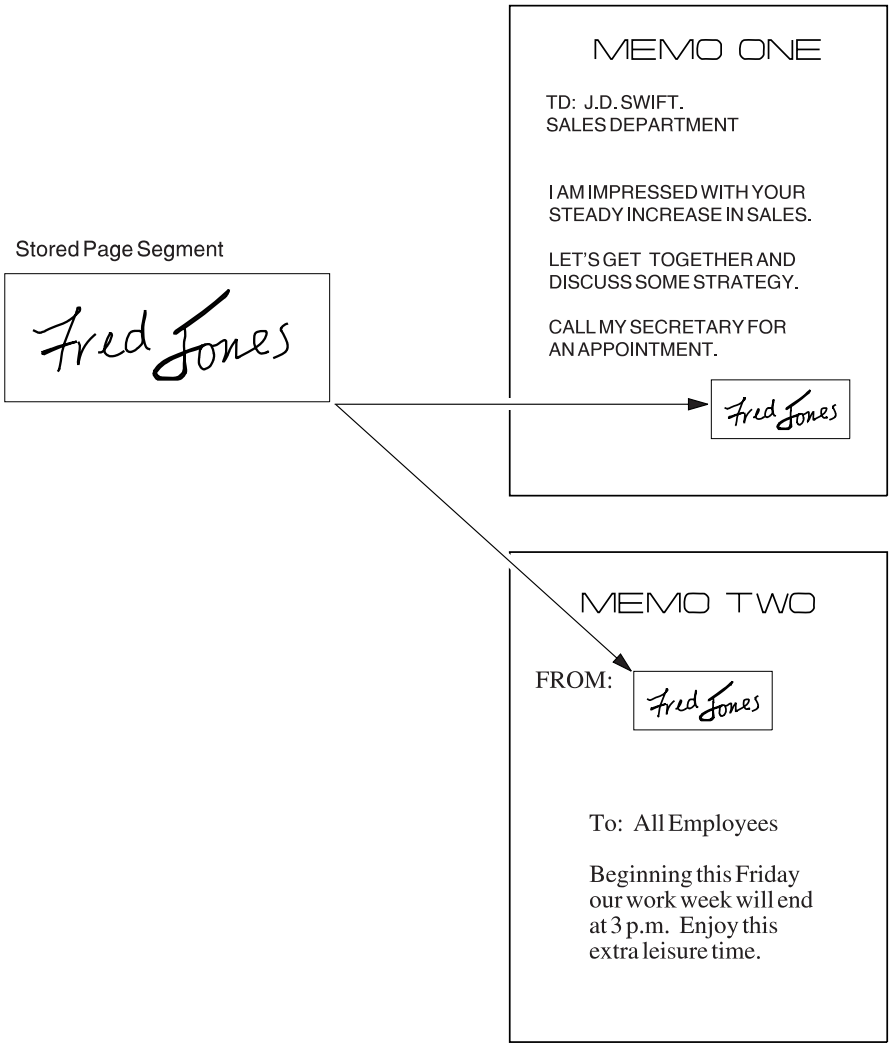

Figure 32. Letters which Contain a Page Segment

Working with Overlays

This function allows you to:

- Copy an overlay object in a library
- Delete overlay objects in a library
- Print an overlay in a library
- Rename an overlay in a library
- Display the description of the overlay object
- Change the description text of the overlay object
- Convert an overlay to a physical file member

Copying an Overlay

This function calls the CL command **CRTDUPOBJ** and copies an overlay object to a new one.

Deleting an Overlay
This function calls the CL command **DLTOVL** and deletes the specified overlay.

Renaming an Overlay
This function calls the CL command **RNMOBJ** and renames the specified overlay.

Printing an Overlay
This function allows you to print an AS/400 overlay on an IPDS printer. The Resource Management Utility generates the AFPDS data stream as a spooled file that is to be printed on an IPDS printer by the OS/400.

Displaying an Overlay Description
This function calls the CL command **DSPOBJD** and displays the overlay description.

Changing an Overlay Description
This function calls the CL command **CHGOBJD** and changes the overlay description.

Converting an Overlay to Physical File Member
This function allows you to convert an overlay to a physical file member. You can transfer the overlay to another system such as the System/370.

Working with Page Segments

This function allows you to:

- Copy a page segment object in a library
- Delete page segment objects in a library
- Rename a page segment object in a library
- Print a page segment object in a library
- Display the description of the page segment
- Change the description of the page segment
- Convert a page segment to a physical file member

Copying a Page Segment
This function calls the CL command **CRTDUPOBJ** and copies a page segment to a new one.

Deleting Page Segments
This function calls the CL command **DLTPAGSEG** and deletes the specified page segments.

Renaming a Page Segment
This function calls the CL command **RNMOBJ** and renames the specified page segment.

Printing a Page Segment

This function allows you to print an AS/400 page segment on an IPDS printer. The Resource Management Utility generates the AFPDS data stream as a spooled file that is to be printed on an IPDS printer by the OS/400.

Displaying a Page Segment Description

This function calls the CL command **DSPOBJD**, and displays the page segment description.

Changing a Page Segment Description

This function calls the CL command **CHGOBJD**, and changes the page segment description.

Converting a Page Segment to a Physical File Member

This function allows you to convert a page segment to a physical file member. You can transfer the page segment to another system such as the System/370.

Chapter 16. Getting Started with the Resource Management Utility

This chapter describes how to do some typical tasks of the Resource Management Utility

This chapter includes the following tasks:

1. Converting a PC document to a page segment
2. Printing an overlay
3. Printing a page segment

You do not need to perform these tasks sequentially because they are independent.

Note: To perform some of the tasks, you need to prepare input data for the tasks. Please read the first part of each section for detail.

Starting Resource Management Utility

Example Actions:

1. Type STRAFPU on the command line.
2. Press the Enter key.

The IBM Advanced Function Printing Utilities for AS/400 menu appears.

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> 21
_____________________________________________________________________________
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F16=System main menu
(C) COPYRIGHT IBM CORP. 1991, 1993.
```

You can start the following three Resource Management Utility functions from this display:

Selection	Function
21	Convert to Page Segment
22	Work with Overlays

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Converting a PC Document to a Page Segment

Note: To perform the following task, you need a PC document, in a folder, that contains IMDS format or IOCA function set 10 image data. To create a PC document, do the following:

1. If necessary, ask the system administrator to add a directory entry (ADDDIRE) for your user ID.
2. Create a folder using the Create Folder (CRTFLR) command.
3. On a personal computer that is connected to the AS/400 and has Client Access for AS/400 shared folder function running on it, create an IMDS format or an IOCA function set 10 image data file with an image handling program.
4. On the personal computer, copy the file to a document in a shared folder.

In the following examples, the following names are used:

IOCAFLR for the folder name
LOGO for the PC document name
MYLIB for the library name
LOGO for the page segment name

You may change these names to your own names.

Example Actions:

1. Type 21 on the Selection or command line in the display.
2. Press the Enter key.

The Convert to Page Segment display appears:

```
                          Convert to Page Segment

Type choices, press Enter.

  Page segment . . . . . .   LOGO          Name
    Library  . . . . . .     MYLIB         Name, *CURLIB
  Source object type . . . .  1            1=PC document, 2=File

                                                                  Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

You are required to enter the qualified name of the page segment to be created and the object type of the input data.

Example Actions:

1. Type `LOGO` for the *Page segment* prompt.
2. Type `MYLIB` for the *Library* prompt.
3. Type `1` for the *Source object type* prompt.
4. Press the Enter key.

Remaining parameters appear according to the specified object type of the input data.

```
                          Convert to Page Segment

Type choices, press Enter.

  Page segment . . . . . .   LOGO____          Name
    Library  . . . . . . .     MYLIB_____      Name, *CURLIB
  Source object type . . . .   1               1=PC document, 2=File
  From folder  . . . . . .   IOCAFLR
_________________
  From PC document . . . . .   LOGO_____       Name
  Change image size  . . . .   N               Y=Yes, N=No
  Degree of rotation . . . .   0__             0, 90, 180, 270
  Authority  . . . . . . .   *LIBCRTAUT        Name, *LIBCRTAUT, *CHANGE
                                               *ALL, *USE, *EXCLUDE
  Text 'description' . . . .   Logo
____
  Replace  . . . . . . . .   Y                 Y=Yes, N=No




                                                                      Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

You are required to enter the folder name and the PC document name. You may also enter other parameters; for example, type `Y` for the *Change image size* prompt if you want to increase or decrease the image size or type `180` for the *Degree of rotation* prompt if you want to print the image upside down.

Example Actions:

1. Type `IOCAFLR` for the *From folder* prompt.
2. Type `LOGO` for the *From PC document* prompt.
3. Type `Logo` for the *Text 'description'* prompt.
4. Press the Enter key.

The IBM Advanced Function Printing Utilities for AS/400 menu appears with a completion message. Page segment LOGO has been created in library MYLIB.

Printing an Overlay

Note: To perform the following task, you need an overlay object. To create an overlay object, do the tasks described in Chapter 5, “Work with Source Overlays” on page 59.

In the following examples, the following names are used:

*LIBL for the library name
STATIONE for the overlay name

You may change these names to your own names.

Example Actions:

1. Type 22 on the Selection or command line in the display.
2. Press the Enter key.

The Work with Overlays display appears:

```
                          Work with Overlays

Library . . . . . .   *LIBL_____        Name, *LIBL, *CURLIB
                                        *ALL, *USRLIBL, *ALLUSR
Overlay . . . . . .   *ALL____          Name, generic*, *ALL
Position to . . . . . ___________       Starting character(s)

Type options, press Enter.
  3=Copy   4=Delete   6=Print   7=Rename   8=Display description
  9=Convert to file   13=Change text

Opt  Overlay    Library     Text

 (No overlays in library)




                                                                  Bottom
Parameters or command
===> ____________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

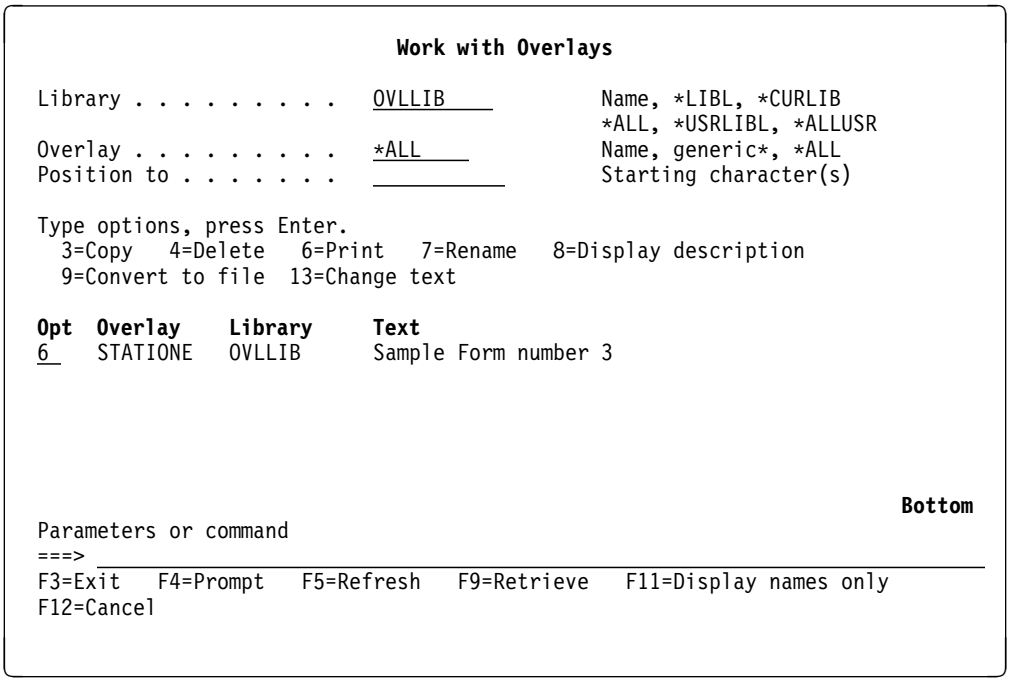
The display shows all overlays in the libraries in the library list. The number of overlays shown in the list depends on your system. You may choose any options or enter a library name for the *Library* prompt to change the list.

Note: The *Opt* prompt must be blank when you change the library name.

Example Actions:

1. Type OVLLIB for the *Library* prompt.
2. Press the Enter key.

The same Work with Overlays display shows another list of overlays.


Work with Overlays
Library . . . . . OVLLIB
Name, *LIBL, *CURLIB
*ALL, *USRLIBL, *ALLUSR
Overlay . . . . . *ALL
Name, generic*, *ALL
Position to . . . . . .
Starting character(s)
Type options, press Enter.
3=Copy 4=Delete 6=Print 7=Rename 8=Display description
9=Convert to file 13=Change text
Opt Overlay Library Text
6 STATIONE OVLLIB Sample Form number 3
Bottom
Parameters or command
===>
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F11=Display names only
F12=Cancel

You should see the name STATIONE, the overlay you created before, in the list. If you do not see the name, press the Page Down (Roll Up) key until the name appears or type the name for the *Position to* prompt and press the Enter key. The list is arranged in ascending sequence by overlay name.

You can choose any option for the overlays.

Example Actions:

1. Type 6 in the *Opt* column beside the overlay name STATIONE.
2. Press the Enter key.

The Print Overlay display appears.

```
                              Print Overlay

Overlay  . . . . . :   STATIONE
  Library  . . . . . :     OVLLIB

Type choices, press Enter.

  Output queue . . . . . .   *JOB        Name, *JOB
    Library  . . . . . .     __________  Name, *LIBL, *CURLIB
  Copies . . . . . . . . .   2__         1-255
  Print fidelity . . . . .   *CONTENT    *CONTENT, *ABSOLUTE

                                                                      Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

Example Actions:

1. Type 2 for the *Copies* prompt.
2. Press the Enter key.

The Work with Overlays display appears with a completion message. The overlay STATIONE has been printed. Press Enter to return to the IBM Advanced Function Printing Utilities for AS/400 menu.

Printing a Page Segment

Note: To perform the following task, you need a page segment. Page segment QFCLOGO should exist in library QGPL. If it does not exist, copy page segment QFCPAGS from library QAFP to to page segment QFCLOGO in library QGPL.

To create a page segment, do the tasks described in Chapter 18, “Convert to Page Segment Function” on page 323.

In the following examples, the following names are used:

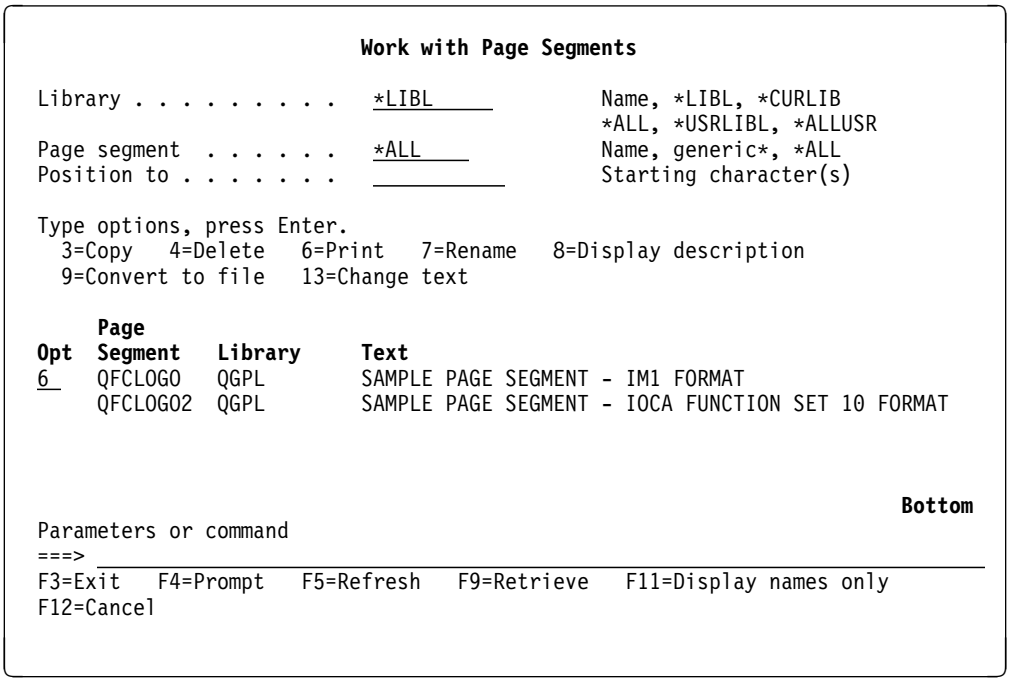
QGPL for the library name
QFCLOGO for the page segment name

You may change these names to your own names.

Example Actions:

1. Type 23 on the Selection or command line in the display.
2. Press the Enter key.

The Work with Page Segments display appears:


Work with Page Segments
Library . . . . . *LIBL
Name, *LIBL, *CURLIB
*ALL, *USRLIBL, *ALLUSR
Page segment . . . . . *ALL
Name, generic*, *ALL
Position to . . . . . .
Starting character(s)
Type options, press Enter.
3=Copy 4=Delete 6=Print 7=Rename 8=Display description
9=Convert to file 13=Change text
Opt Page Segment Library Text
6 QFCLOGO QGPL SAMPLE PAGE SEGMENT - IM1 FORMAT
QFCLOGO2 QGPL SAMPLE PAGE SEGMENT - IOCA FUNCTION SET 10 FORMAT
Bottom
Parameters or command
===>
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F11=Display names only
F12=Cancel

The display shows all page segments in the libraries in the library list. The number of page segments shown in the list depends on your system. You may choose any options or enter a library name for the *Library* prompt to change the list.

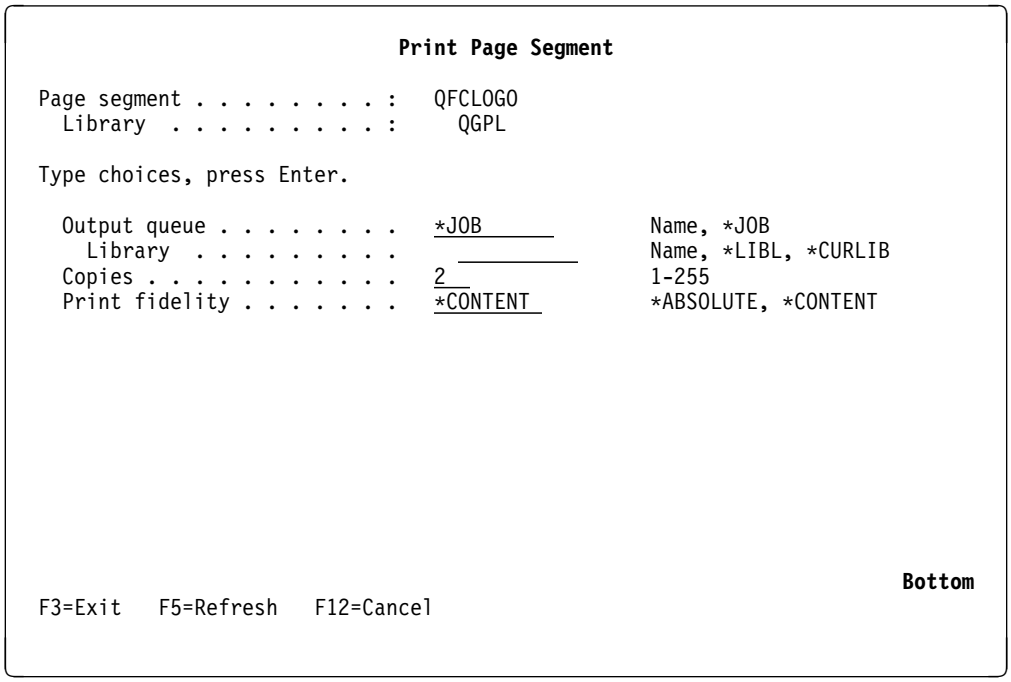
Note: The *Opt* prompt must be blank when you change the library name.

You should see page segment QFCLOGO and library QGPL in the list. If you do not see the name, press the Page Down (Roll Up) key until the name appears or type the name for the *Position to* prompt and press the Enter key. The list is arranged in ascending sequence by page segment name.

Example Actions:

1. Type 6 in the *Opt* column beside page segment name QFCLOGO.
2. Press the Enter key.

The Print Page Segment display appears.


Print Page Segment
Page segment . . . . . : QFCLOGO
Library . . . . . : QGPL
Type choices, press Enter.
Output queue . . . . . *JOB Name, *JOB
Library . . . . . Name, *LIBL, *CURLIB
Copies 2 1-255
Print fidelity . . . . . *CONTENT *ABSOLUTE, *CONTENT
Bottom
F3=Exit F5=Refresh F12=Cancel

Example Actions:

1. Type 2 for the *Copies* prompt.
2. Press the Enter key.

The Work with Page Segments display appears with a completion message.

```
Page segment QFCLOGO has been printed.
```

Press Enter to return to the IBM Advanced Function Printing Utilities for AS/400 menu.

Chapter 17. Starting and Ending the Resource Management Utility

Starting the Resource Management Utility

You can start the Resource Management Utility by typing the following commands on the command line and pressing Enter.

STRAFPU
Starts AFP Utilities for AS/400. You can select any function of the Resource Management Utility.

CVTPCDPAGS
Allows you to convert a PC document in a shared folder to a page segment.

CVTPFMPAGS
Allows you to convert a member in a physical database file to a page segment.

CVTOVLPFM
Allows you to convert an overlay to a physical file member.

CVTPAGSPFM
Allows you to convert a page segment to a physical file member.

Starting the Resource Management Utility with the STRAFPU Command

When you start the Resource Management Utility with the STRAFPU command, the following display appears:

```
AFPU          IBM Advanced Function Printing Utilities for AS/400

Select one of the following:

  Overlay Utility
     1. Work with source overlays
     2. Work with source overlay files

  Print Format Utility
    11. Work with PFD definitions
    12. Work with PFD definition files
    13. Print database file member
    14. Print AFP Utilities tutorial

  Resource Management Utility
    21. Convert to page segment
    22. Work with overlays
    23. Work with page segments

Selection or command
===> ____________________________________________________________________

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F16=System main menu
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```

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You can start the following three Resource Management Utility functions from this display.

Selection	Function
21	Convert to Page Segment
22	Work with Overlays
23	Work with Page Segments

The following describes the selections available on the above screen. To select one of the following, type the number of the selection on the command line, and press Enter.

Option 21 : Convert to Page Segment Function

The **convert to page segment** function allows you to create a page segment as follows:

- Specify the name of the page segment to be created and the name of the library in which to create the page segment.
- Specify which kind of input source object you want to convert to a page segment.
- Specify the names of an AS/400 folder and PC document when you create a page segment from a PC document.
- Specify the names of an AS/400 file member, file, and library when you create a page segment from a database file member.

See Chapter 18, “Convert to Page Segment Function” on page 323 for more information.

Option 22 : Work with Overlays Function

The work with overlays function allows you to copy, delete, rename, and print an overlay object, display and change the description of an overlay object, and convert an overlay object to a physical file member.

See Chapter 19, “Work with Overlays Function” on page 333 for more information.

Option 23 : Work with Page Segments Function

The work with page segments function allows you to copy, delete, rename, and print a page segment, display and change the description of a page segment, and convert a page segment to a physical file member.

See Chapter 20, “Work with Page Segments Function” on page 343 for more information.

Starting the Resource Management Utility with the CVTPCDPAGS Command

When you start the Resource Management Utility with the CVTPCDPAGS command, the following display appears:

```
                    Convert PCD to Page Segment (CVTPCDPAGS)

Type choices, press Enter.

Page segment . . . . . .          _________      NAME, *PRV
  Library  . . . . . .              *CURLIB      NAME, *CURLIB
From folder  . . . . . .          *PRV
_____________________________
From PC document . . . . . .      *PRV           NAME, *PRV, *PAGSEG

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

The following display appears when you type data in the fields and press the F10 key.

```
                    Convert PCD to Page Segment (CVTPCDPAGS)

Type choices, press Enter.

Page segment . . . . . .          LOGO           NAME, *PRV
  Library  . . . . . .              *CURLIB      NAME, *CURLIB
From folder  . . . . . .          LOGOFLD
_____________________________
From PC document . . . . . .      LOGODOC        NAME, *PRV, *PAGSEG
Change image size  . . . . . .    *NO            *SAME, *NO, *YES

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Press the Enter key and the following display appears.

```
                    Convert PCD to Page Segment (CVTPCDPAGS)

Type choices, press Enter.

Page segment . . . . . > LOGO          NAME, *PRV
  Library  . . . . . .    *CURLIB      NAME, *CURLIB
From folder  . . . . . > LOGOFLD
_____________________________
From PC document . . . . . > LOGODOC       NAME, *PRV, *PAGSEG
Change image size  . . . . .  *NO         *SAME, *NO, *YES
Degree of rotation . . . . .  *SAME       0, 90, 180, 270, *SAME

                           Additional Parameters

Authority  . . . . . .  *SAME       NAME, *LIBCRTAUT, *CHANGE...
Text 'description' . . . . . .  *SAME
______
Replace  . . . . . .  *YES          *NO, *YES


                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

From this display, you can convert a PC document in a shared folder to a page segment.

See “CVTPCDPAGS (Convert PC Document to Page Segment) Command” on page 366 for more information.

Starting the Resource Management Utility with the CVTPFMPAGS Command

When you start the Resource Management Utility with the CVTPFMPAGS command and press the F4 key, the following display appears:

```
                    Convert PFM to Page Segment (CVTPFMPAGS)

Type choices, press Enter.

Page segment . . . . . .  _________      NAME, *PRV
  Library  . . . . . .    *CURLIB        NAME, *CURLIB
From file  . . . . . .    *PRV           NAME, *PRV
  Library  . . . . . .    __________     NAME, *LIBL, *CURLIB
From member  . . . . . .  *PRV           NAME, *PRV, *PAGSEG









                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

The following display appears when you type data in the fields and press the F10 key.

```
                    Convert PFM to Page Segment (CVTPFMPAGS)

Type choices, press Enter.

Page segment . . . . . .   LOGO_____      NAME, *PRV
  Library  . . . . . . .     *CURLIB___    NAME, *CURLIB
From file  . . . . . . .   LOGOFILE__      NAME, *PRV
  Library  . . . . . . .     *CURLIB___    NAME, *LIBL, *CURLIB
From member  . . . . . .   LOGOMBR___      NAME, *PRV, *PAGSEG
Change image size  . . .   *NO___          *SAME, *NO, *YES
                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Press the Enter key and the following display appears.

```
                    Convert PFM to Page Segment (CVTPFMPAGS)

Type choices, press Enter.

Page segment . . . . . .   LOGO_____      NAME, *PRV
  Library  . . . . . . .     *CURLIB___    NAME, *CURLIB
From file  . . . . . . .   LOGOFILE__      NAME, *PRV
  Library  . . . . . . .     *CURLIB___    NAME, *LIBL, *CURLIB
From member  . . . . . .   LOGOMBR___      NAME, *PRV, *PAGSEG
Change image size  . . .   *NO___          *SAME, *NO, *YES
Degree of rotation . . .   *SAME           0, 90, 180, 270, *SAME

                          Additional Parameters

Authority  . . . . . . .   *SAME_____      NAME, *LIBCRTAUT, *CHANGE...
Text 'description' . . .   *SAME
_____
Replace  . . . . . . . .   *YES            *NO, *YES

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

From this display, you can convert a member in a database file to a page segment.

See “CVTPFMPAGS (Convert Physical File Member to Page Segment) Command” on page 372 for more information.

Starting the Resource Management Utility with the CVTOVLPFM Command

When you start the Resource Management Utility with the CVTOVLPFM command and press the F4 key, the following display appears:

```
                    Convert Overlay to PFM (CVTOVLPFM)

Type choices, press Enter.

Overlay  . . . . . . . . . . .   _______      NAME
  Library  . . . . . . . . . .     *LIBL      NAME, *LIBL, *CURLIB
Format of data . . . . . . . .   __________   *FIXED, *CONTINUOUS
To file  . . . . . . . . . . .   _________    NAME, *VM, *MVS
  Library  . . . . . . . . . .     *CURLIB    NAME, *CURLIB
To member  . . . . . . . . . .   *OVL         NAME, *OVL
Text 'description' . . . . . .   *OVLTXT
_____
Replace  . . . . . . . . . . .   *NO          *YES, *NO
Create file  . . . . . . . . .   *NO          *YES, *NO









                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

From this display, you can convert an overlay object to a database file member.

When you type data in the fields, change the *Create file* field to '*YES', and press the Enter key, the following display appears.

```
                    Convert Overlay to PFM (CVTOVLPFM)

Type choices, press Enter.

Overlay  . . . . . . . . . . . > SMPOVL      NAME
  Library  . . . . . . . . . . >   QGPL       NAME, *LIBL, *CURLIB
Format of data . . . . . . . . > *FIXED      *FIXED, *CONTINUOUS
To file  . . . . . . . . . . . > *VM         NAME, *VM, *MVS
  Library  . . . . . . . . . .     *CURLIB    NAME, *CURLIB
To member  . . . . . . . . . .   *OVL         NAME, *OVL
Text 'description' . . . . . .   *OVLTXT
_____
Replace  . . . . . . . . . . .   *NO          *YES, *NO
Create file  . . . . . . . . . > *YES         *YES, *NO
Text 'description' . . . . . .   *BLANK
_____









                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

See “CVTOVLPFM (Convert Overlay to Physical File Member) Command” on page 378 for more information.

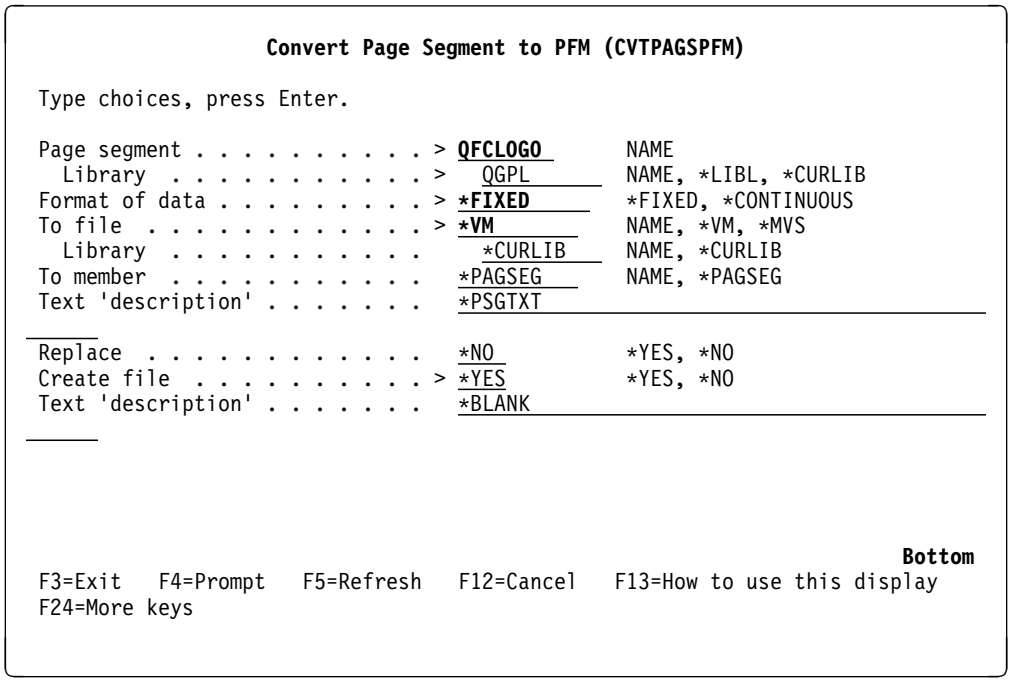
Starting the Resource Management Utility with the CVTPAGSPFM Command

When you start the Resource Management Utility with the CVTPAGSPFM command and press the F4 key, the following display appears:

```
                    Convert Page Segment to PFM (CVTPAGSPFM)

Type choices, press Enter.

Page segment . . . . . .          _________     NAME
  Library  . . . . . .            *LIBL         NAME, *LIBL, *CURLIB
Format of data . . . . . .        ___________   *FIXED, *CONTINUOUS
To file  . . . . . .              _________     NAME, *VM, *MVS
  Library  . . . . . .            *CURLIB       NAME, *CURLIB
To member  . . . . . .            *PAGSEG       NAME, *PAGSEG
Text 'description' . . . . . .    *PSGTXT
_____
Replace  . . . . . .              *NO           *YES, *NO
Create file  . . . . . .          *NO           *YES, *NO

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

From this display, you can convert a page segment to a database file member.

When you type data in the fields, change the *Create file* field to '*YES', and press the Enter key, the following display appears.


Convert Page Segment to PFM (CVTPAGSPFM)
Type choices, press Enter.
Page segment . . . . . > QFCLOGO NAME
Library . . . . . > QGPL NAME, *LIBL, *CURLIB
Format of data . . . . . > *FIXED *FIXED, *CONTINUOUS
To file . . . . . > *VM NAME, *VM, *MVS
Library . . . . . *CURLIB NAME, *CURLIB
To member . . . . . *PAGSEG NAME, *PAGSEG
Text 'description' . . . . . *PSGTXT
Replace . . . . . *NO *YES, *NO
Create file . . . . . > *YES *YES, *NO
Text 'description' . . . . . *BLANK
Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

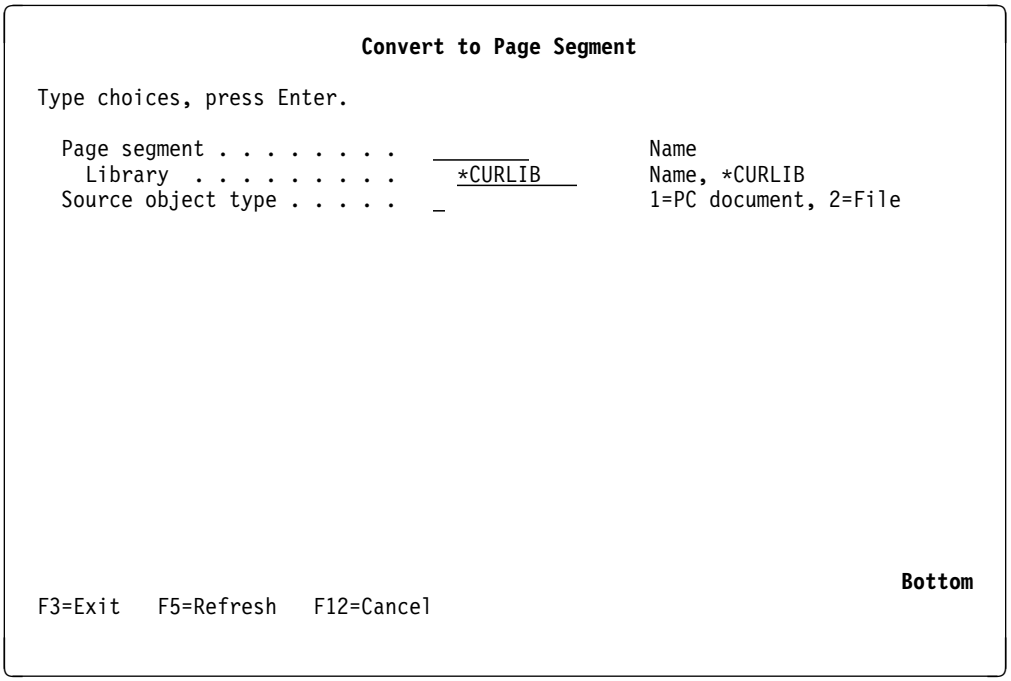
See “CVTPAGSPFM (Convert Page Segment to Physical File Member) Command” on page 382 for more information.

Ending the Resource Management Utility

You can end the Resource Management Utility by pressing the F3 key on the Convert to Page Segment display, the Work with Overlays display, or the Work with Page Segments display. The display from which you started the Resource Management Utility will appear.

Chapter 18. Convert to Page Segment Function

To start the convert to page segment function, type 21 on the Selection or command line on the IBM Advanced Function Printing Utilities for AS/400 menu and press Enter. The Convert to Page Segment display appears:


Convert to Page Segment
Type choices, press Enter.
Page segment . . . . . _____ Name
Library . . . . . *CURLIB Name, *CURLIB
Source object type . . . . . _ 1=PC document, 2=File
Bottom
F3=Exit F5=Refresh F12=Cancel

Note: AFP Utilities for AS/400 stores the information for Page segment and Library in an Interactive Profile Entry for the user profile. These values replace the values displayed the next time the function is used.

The Convert to Page Segment display allows you to create a page segment from either a PC document in an AS/400 folder or a physical file member. The PC document or physical file member must contain image data stream (IMDS) or IOCA function set 10 data. The created page segment can be placed in a source overlay by using the Overlay Utility, and printed on an IPDS printer. It is also possible to place the page segment in a record layout or page layout by using the Print Format Utility and print it on an IPDS printer.

On this display, you need to specify the name of the page segment, library, and whether the page segment is to be created from a physical file member or a PC document.

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The following table describes the fields on the Convert to Page Segment display:

Field Name	Description
Page segment	Specifies the name of the page segment which is being created.
Library	Specifies the name of the library in which the page segment will be created. The possible library values in this prompt are: ***CURLIB** The current library for the job is used to create the page segment. If no library is specified as the current library for the job, library QGPL is used. **Name** The specified library is used to create the page segment.
Source object type	Specify one of the following to specify from which type of source object you are creating a page segment: **1** To create a page segment from a PC document in an AS/400 folder. **2** To create a page segment from a physical file member.

Type your choices and press Enter. One of the following displays appears depending on your selection for the *Source object type* prompt.

When you type the page segment name and library and select **1** (PC document) for the *Source object type* prompt, the following display appears.

```
                          Convert to Page Segment

Type choices, press Enter.

  Page segment . . . . . .   LOGO____          Name
    Library  . . . . . .       MYLIB____       Name, *CURLIB
  Source object type . . . . .  1               1=PC document, 2=File
  From folder  . . . . . .   ____________________________________________
__________________
  From PC document . . . . . .  ____________    Name
  Change image size  . . . . .  N               Y=Yes, N=No
  Degree of rotation . . . . .  0__             0, 90, 180, 270
  Authority  . . . . . .     *LIBCRTAUT         Name, *LIBCRTAUT, *CHANGE
                                                *ALL, *USE, *EXCLUDE
  Text 'description' . . . . .  ____________________________________________
____
  Replace  . . . . . .      Y                  Y=Yes, N=No




                                                                      Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

When you type the page segment name and library and select **2** (File) for the *Source object type* prompt, the following display appears.

```
                          Convert to Page Segment

Type choices, press Enter.

  Page segment . . . . . .   LOGO          Name
    Library  . . . . . .       MYLIB       Name, *CURLIB
  Source object type . . . .   2             1=PC document, 2=File
  From file  . . . . . . . .   _____         Name
    Library  . . . . . .       *CURLIB     Name, *LIBL, *CURLIB
  From member  . . . . . .     _____         Name
  Change image size  . . . .   N             Y=Yes, N=No
  Degree of rotation . . . .   0             0, 90, 180, 270
  Authority  . . . . . . . .   *LIBCRTAUT    Name, *LIBCRTAUT, *CHANGE
                                             *ALL, *USE, *EXCLUDE
  Text 'description' . . . .   _____________________________________________
____
  Replace  . . . . . . . . .   Y             Y=Yes, N=No




                                                                        Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

The following table describes the fields on the Convert to Page Segment display:

Field Name	Description
Page segment	Specifies the name of the page segment to be created.
Library	Specifies the name of the library in which the page segment will be created. The possible library values in this prompt are: ***CURLIB** The current library for the job is used to create the page segment. If no library is specified as the current library for the job, library QGPL is used. **Name** Specify the library in which the page segment will be created.
Source object type	Specify one of the following to specify from which type of source object you are creating a page segment: **1** To create a page segment from a PC document in an AS/400 folder. **2** To create a page segment from a physical file member.
From folder	Specify the name of the folder that contains the PC document from which you want to create a page segment.
From PC document	Specify the name of the PC document from which you want to create a page segment.
From file	Specify the name of the file that contains the member from which you want to create a page segment.
Library	Specify the name of the library that contains the file.
From member	Specify the name of the physical file member from which you want to create a page segment.

Field Name	Description
Change image size	The Resource Management Utility determines the output image size that is the same as the input image size. If either the image width or length value in the input image size is zero, the Resource Management Utility does not create the page segment, and issues an error message. You can change the output image size. Select one of the following: **Y (Yes)** You will change the output image size. When you select this value, the parameter prompts to specify the image size appearance. **N (No)** The output image size is the same as the input image size.
Degree of rotation	Specify the degree of clockwise rotation of the output image area. You can specify 0, 90, 180, and 270 for this parameter.
Authority	Specifies the authority given to users who do not have specific authority to the page segment, who are not on the authorization list, and whose user group has no specific authority to the page segment. You can specify the following values for this parameter: ***LIBCRTAUT** The system determines the authority for the page segment by using the value specified for the Create authority prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the page segment to be created. If the value specified on the Create authority prompt (CRTAUT parameter) is changed, the new value will not affect this page segment. ***CHANGE** Change authority allows the user to perform all operations on the page segment except those limited to the owner or controlled by object existence authority and object management authority. The user can change the page segment and perform basic functions on the page segment. Change authority provides object operational authority and all data authority. ***ALL** All authority allows the user to perform all operations on the page segment except those limited to the owner or controlled by authorization list management authority. The user controls the existence of the page segment, specifies the security for the page segment, changes the page segment, and performs basic functions on the page segment. The user cannot transfer ownership of the page segment. ***USE** Use authority allows the user to perform basic operations on the page segment, such as read a page segment. The user is prevented from changing the page segment. Use authority provides object operational authority, read authority, and execute authority. ***EXCLUDE** Exclude authority prevents the user from accessing the page segment. **Authorization-list-name** Specify the name of the authorization list that is used to secure the page segment object to be created.
Text 'description'	Specify the description text that briefly describes the page segment. The description text should be specified with no more than 50 characters of text and enclosed in apostrophes.

Field Name	Description
Replace	Specifies whether or not the existing page segment is to be replaced, when a page segment of the same name already exists in the library. You can specify one of the following values: **Y (Yes)** Replace the existing page segment. **N (No)** Do not replace the existing page segment.

When you select **Y** (Yes) for the *Change image size* prompt and press Enter, the Convert to Page Segment display changes as follows:

```
                          Convert to Page Segment

Type choices, press Enter.

  Page segment . . . . . .   LOGO____          Name
    Library  . . . . . . .     MYLIB_____      Name, *CURLIB
  Source object type . . . .   1               1=PC document, 2=File
  From folder  . . . . . .   IOCAFLR
_____________________
  From PC document . . . . .   LOGO_____        Name
  Change image size  . . . .   Y               Y=Yes, N=No
  For choice Y=Yes:
    Unit of measure  . . . .   1               1=Inch, 2=Centimeter
    Width  . . . . . . . . .   ________        0.10-22.75 (Inch)
                                               0.10-57.79 (Centimeter)
    Length . . . . . . . . .   ________        0.10-22.75 (Inch)
                                               0.10-57.79 (Centimeter)




                                                                    More...
F3=Exit   F5=Refresh   F12=Cancel
```

```
                          Convert to Page Segment

Type choices, press Enter.

    Mapping option . . . . .   1               1=Position and trim
                                               2=Scale to fit
                                               3=Center and trim
                                               4=Image point to pel
                                               5=Image point to pel with
                                                 double dot
  Degree of rotation . . . .   0__             0, 90, 180, 270
  Authority  . . . . . . . .   *LIBCRTAUT      Name, *LIBCRTAUT, *CHANGE
                                               *ALL, *USE, *EXCLUDE
  Text 'description' . . . .   Logo
____
  Replace  . . . . . . . . .   Y               Y=Yes, N=No




                                                                    Bottom
F3=Exit   F5=Refresh   F12=Cancel
```

The following table describes the fields newly shown on the Convert to Page Segment display:

Field Name	Description
Unit of measure	This prompt is displayed only when a Y (Yes) is specified in the *Change image size* prompt. It specifies whether inch or centimeter is used as the unit of measure for the *Width* and the *Length* prompts. Select one of the following: **1** Inch is used for the unit of measure. **2** Centimeter is used for the unit of measure.
Width	This prompt is displayed only when a Y (Yes) is specified in the *Change image size* prompt. It specifies the horizontal size of output image area to be printed. The following values can be specified for this parameter: • 0.10 - 22.75 (in inches) • 0.10 - 57.79 (in centimeters)
Length	This prompt is displayed only when a Y (Yes) is specified in the *Change image size* parameter. It specifies the vertical size of the image area that is to be printed. The following values can be specified for this prompt: 0.10 - 22.75 (in inches) 0.10 - 57.79 (in centimeters)
Mapping option	This prompt is displayed only when a Y (Yes) is specified in the *Change image size* prompt. It specifies how the image is mapped to the output image area. You can specify one of the following values in this prompt: **1 (Position and trim)** The top left corner of the image is specified with the origin of the output image area. Any portion of the image that falls outside the limits of the output image area is trimmed. **2 (Scale-to-fit)** The center of the image is set in the same position as the center of the output image area, and the image presentation space is scaled to fit within the limits of the output image area. **3 (Center-and-trim)** The center of the image is set in the same position as the center of the output image area. Any portion of the image that falls outside the limits of the output image area is trimmed. **4 (Image point-to-pel)** The origin of the image is mapped to the origin of the output image area. Any portion of the image that goes outside the output image area is truncated at the block boundaries, and no resolution correction is done. **5 (Image point-to-pel with double dot)** The origin of the image is mapped to the origin of the output image area, and each image point is then doubled (replicated) in both dimensions. Any part of the image that goes outside the output image area is truncated at the block boundaries, and no resolution correction is done. See page 329 for more information.

The following figures explain the meaning of the mapping option and the image orientation parameters.

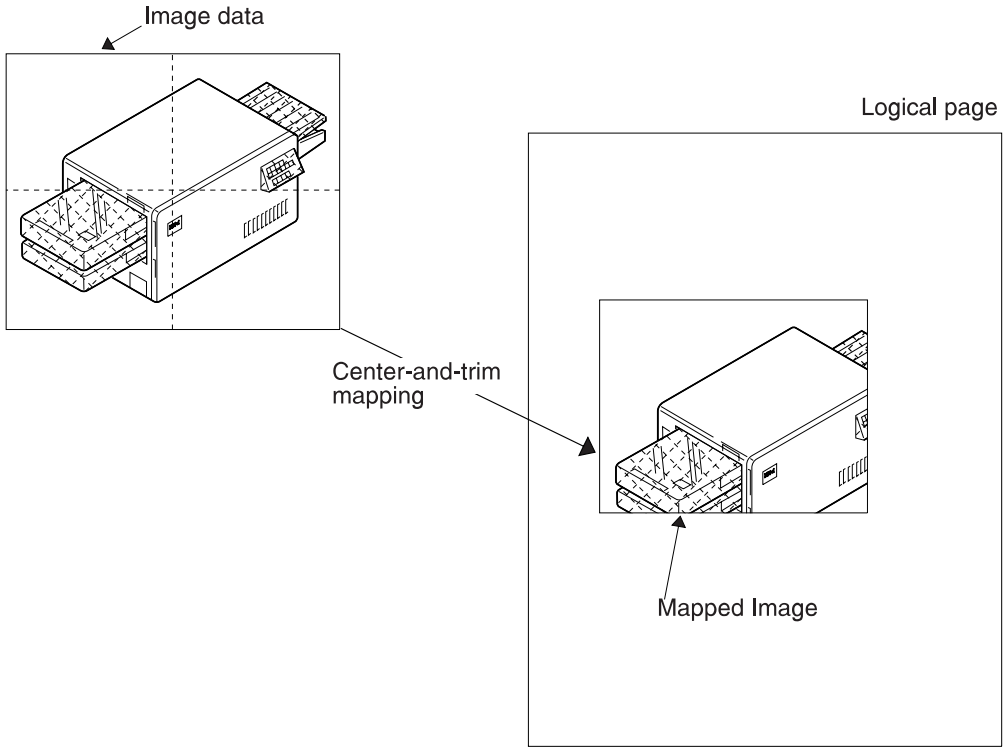

Figure 33. Example of Position-and-Trim Mapping

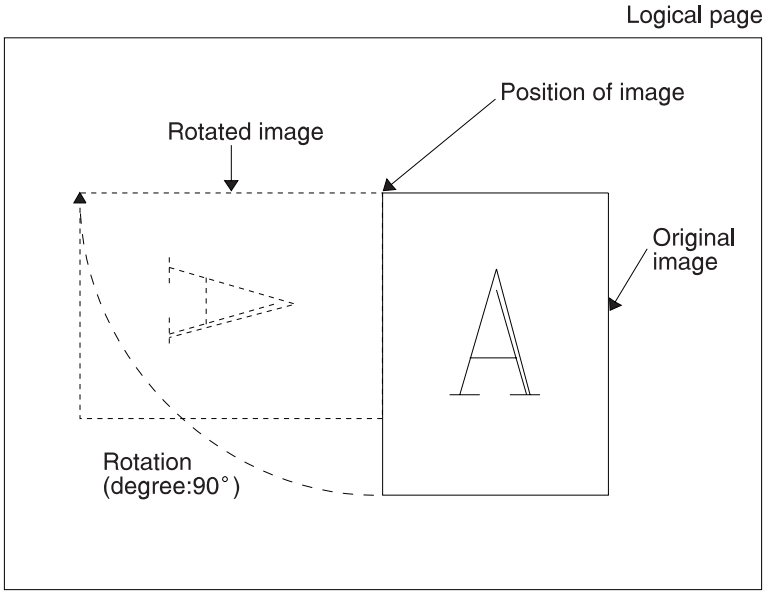

Figure 34. Example of Scale-to-Fit Mapping

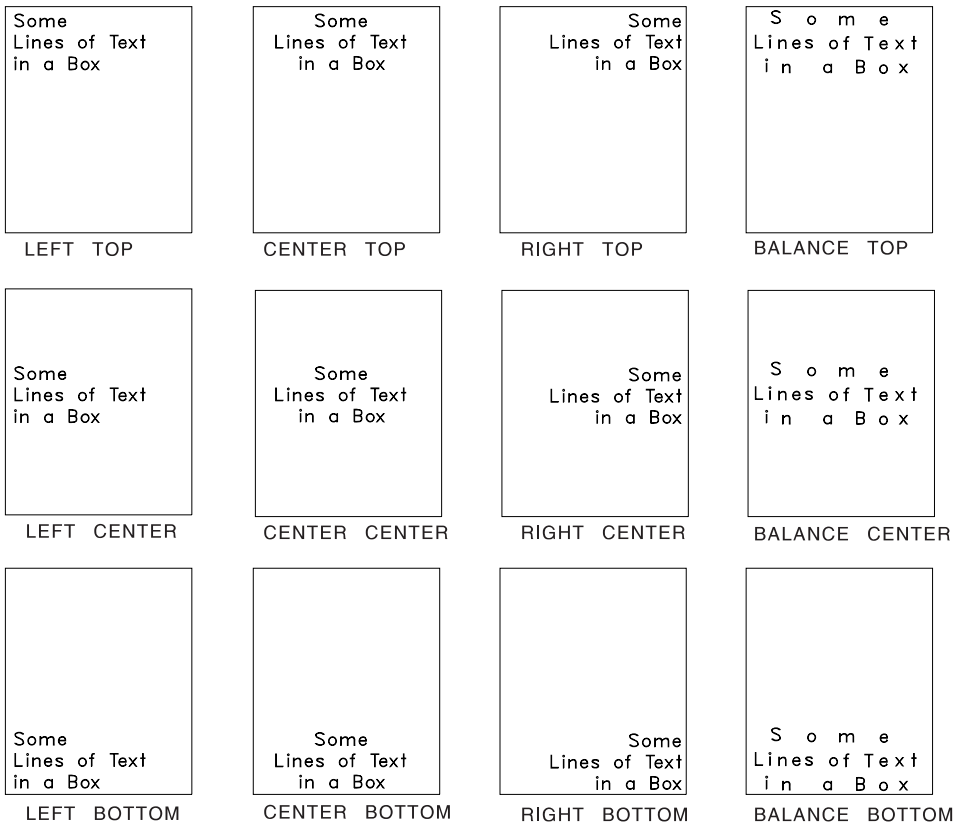

Figure 35. Example of Center-and-Trim Mapping

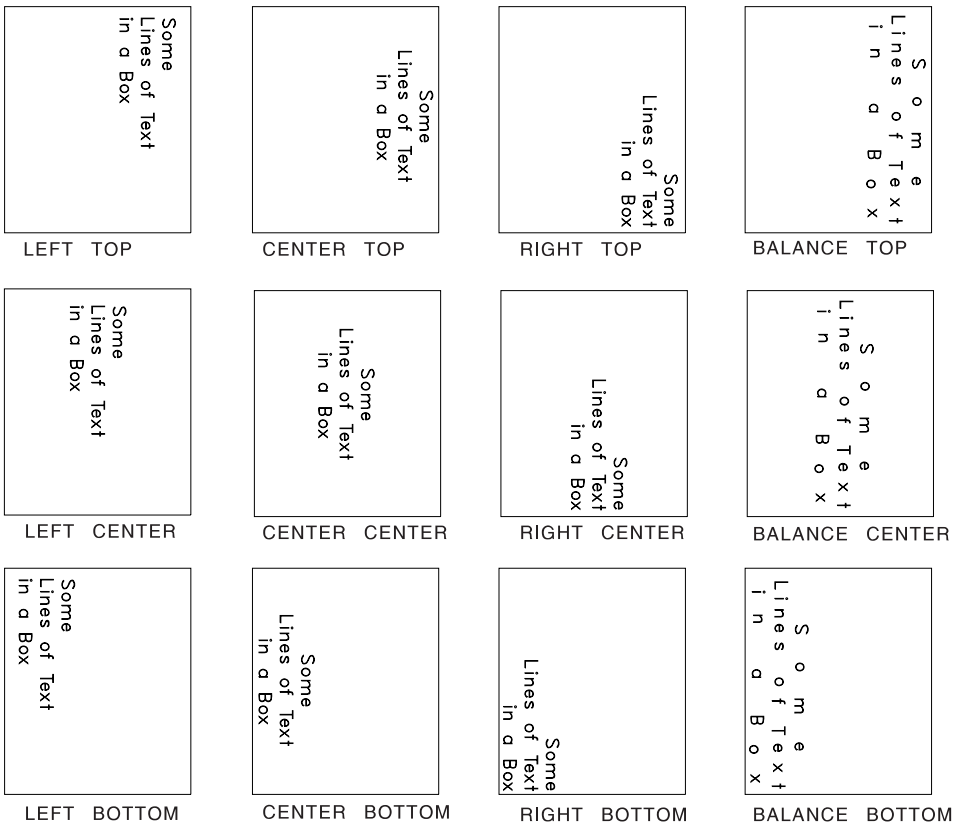

Figure 36. Example of Rotating the Image Block

Chapter 19. Work with Overlays Function

The work with overlays function allows you to copy, delete, rename, and print an overlay object which is built by the overlay utility, display and change the description of an overlay, and convert an overlay object to a physical file from the list of overlays found in the selected libraries.

To use a work with overlays function, type 22 on the Selection or command line on the IBM Advanced Function Printing Utilities for AS/400 menu on page 316 and press Enter. The following display appears:

```
                              Work with Overlays

Library . . . . . .   OVLLIB      Name, *LIBL, *CURLIB
                                  *ALL, *USRLIBL, *ALLUSR
Overlay . . . . . .   *ALL       Name, generic*, *ALL
Position to . . . . .  _________  Starting character(s)

Type options, press Enter.
  3=Copy   4=Delete   6=Print   7=Rename   8=Display description
  9=Convert to file   13=Change text

Opt  Overlay    Library     Text
__   STATIONE   OVLLIB      Sample Form number 3

                                                                      Bottom
Parameters or command
===> ____________________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

The Work with Overlays display shows a list of overlays in the libraries that you specified. If you specified an overlay name or generic name for the *Overlay* prompt, only those overlays that match the specified values are included in the list.

The following tables describe the Work with Overlays display.

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Prompts

Prompt	Description
Library	Specifies the name of the library that contains the overlays to be listed. The possible library values in this prompt are: ***LIBL** The library list is used to list the overlays. All overlays that reside in all libraries in the library list are included in the list. ***USRLIBL** The user portion of the library list is used to create a list of the overlays. ***CURLIB** The current library for the job is used to list the overlays. If no library is specified as the current library for the job, library QGPL is used. ***ALL** All libraries in the system are used to create a list of the overlays. ***ALLUSR** All user libraries in the system are used to create a list of the overlays. All user libraries mean all libraries whose names do not start with Q in addition to library QGPL. **Name** The specified library is used to create a list of the overlays.
Overlay	Specifies the name of the overlay to be listed. You can use this parameter to work with all overlays or a subset of overlays in the specified library. ***ALL** Specify *ALL for a list of all the overlays in the specified library. **generic*** Specify a partial overlay name qualified by an asterisk (*) to display a list of overlay names that start with the generic name. **Name** Specify the name of the overlay which you want to display in the list.
Position to	This prompt is used for quick repositioning of the list, not for creating a subset of the list. Choose one of the following: ***TOP** Specify *TOP to go to the top of the list. ***BOT** Specify *BOT to go to the bottom of the list. **name or partial name** Specify the name or a partial name to go to in the list. The list is positioned to the first name beginning with the string specified.

Options

Option	Description
3=Copy	Using this option, you can copy an overlay object using the Create Duplicate Object (CRTDUPOBJ) command. Specify 3 (Copy) in the *Opt* column beside the overlay you want to copy and press Enter. The library in which the overlay is being created must exist. If it does not, use the Create Library (CRTLIB) command to create the library before you copy an overlay.
4=Delete	Using this option, AFP Utilities delete an overlay object using the Delete Overlay (DLTOVL) command. Specify 4 (Delete) in the *Opt* column beside the overlay you want to delete and press Enter.

Option	Description
6=Print	Using this option, you can print an overlay object. Specify 6 (Print) in the *Opt* column beside the overlay you want to print and press Enter.
7=Rename	Using this option, you can rename an overlay object. Specify 7 (Rename) in the *Opt* column beside the overlay you want to rename and press Enter.
8=Display description	Using this option, you can display the description of an overlay using the Display Object Description (DSPOBJD) command. Specify 8 (Display description) in the *Opt* column beside the overlay for which you want to display the description and press Enter.
9=Convert to file	Using this option, you can convert an overlay to a physical file member. Specify 9 (Convert to file) in the *Opt* column beside the overlay which you want to convert to a physical file member and press Enter.
13=Change description	Using this option, you can change the description of an overlay using the Change Object Description (CHGOBJD) command. Specify 13 (Change description) in the *Opt* column beside the overlay for which you want to change the description and press Enter.

Columns

Column	Description
Opt	Specify the number of the option beside the overlay that you want to work with.
Overlay	Shows the names of the overlays in the library(s) that you specified.
Library	Shows the name(s) of the library(s) in which the overlays reside.
Text	Shows the text that describes the overlays.

3=Copy Overlay Object

To copy an overlay object, do the following on the Work with Overlays display on page 333.

1. Type 3 in the *Opt* column beside the overlay that you want to copy.
2. Press Enter.

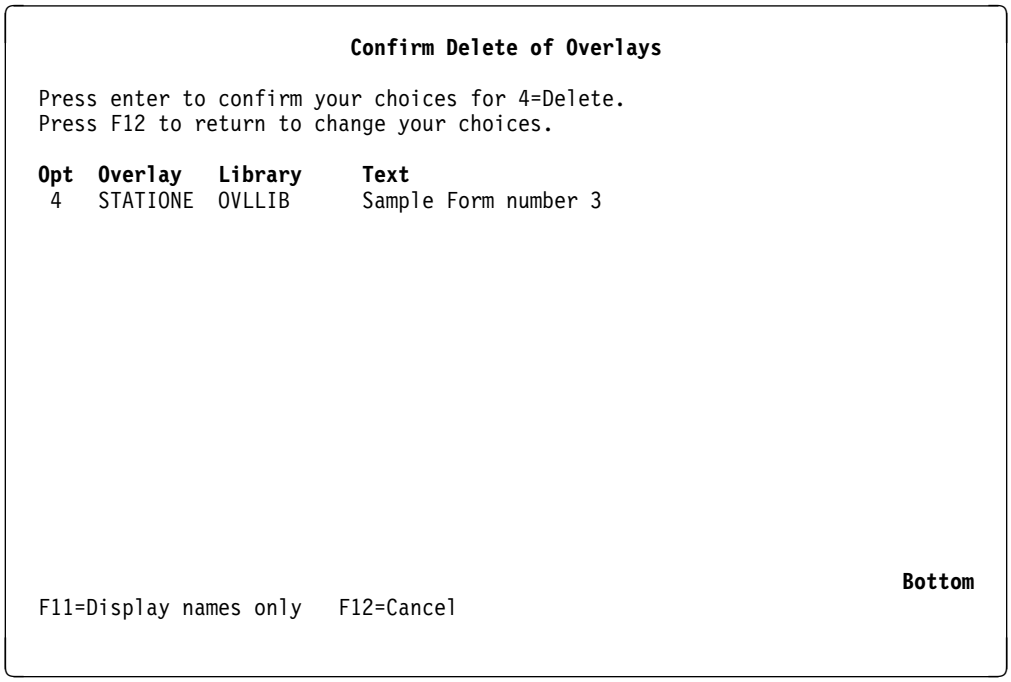
Then the CL command **CRTDUPOBJ** will be called.

4=Delete Overlays

To delete an overlay object, do the following on the Work with Overlays display on page 333.

1. Type 4 in the *Opt* column beside the overlay that you want to delete.
2. Press Enter.

The Confirm Delete of Overlays display appears:


Confirm Delete of Overlays
Press enter to confirm your choices for 4=Delete.
Press F12 to return to change your choices.
Opt Overlay Library Text
4 STATIONE OVLLIB Sample Form number 3
Bottom
F11=Display names only F12=Cancel

On this display, the overlays that you specified to be deleted on the previous display are listed.

Confirm the list and press Enter to delete them or press F12 to cancel. When you press Enter, the CL Command DLTOVL is called.

The following table describes the Confirm Delete of Overlays display.

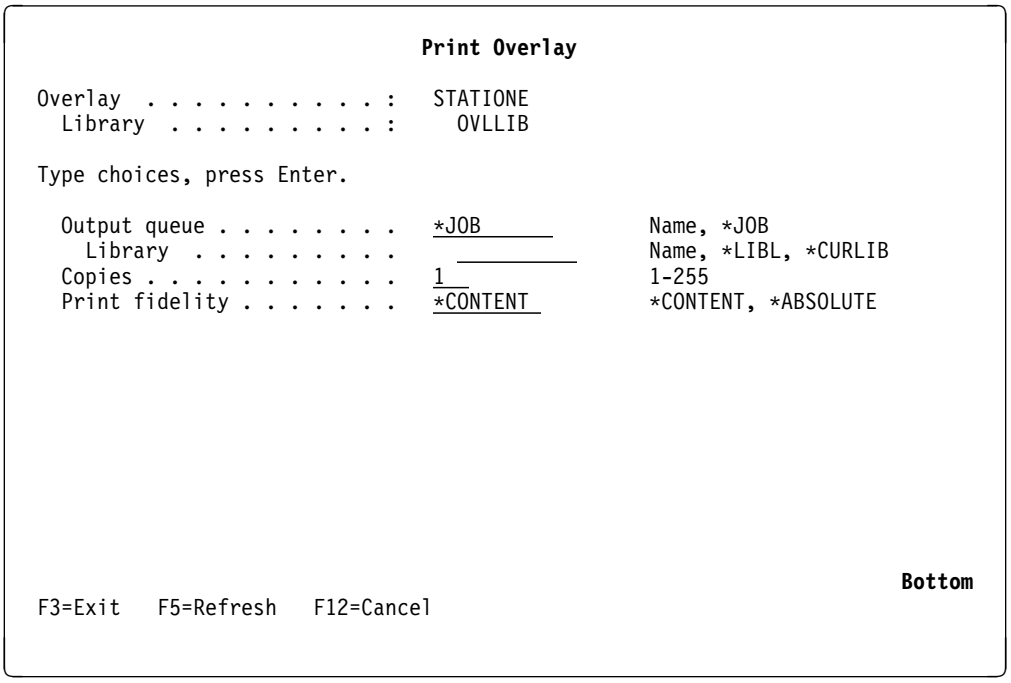
Field Name	Description
Opt	The *Opt* column shows the delete option. A confirmation display is shown. For this display, the number 4 is always shown.
Overlay	The overlays which you specified to be deleted on the previous display are listed.
Library	The libraries that contain the overlays which you specified to be deleted on the previous display are listed.
Text	The text that describes the overlay which you specified to be deleted on the previous display is shown.

6=Print Overlay

To print an overlay object, do the following on the Work with Overlays display on page 333.

1. Type 6 in the *Opt* column beside the overlay that you want to print.
2. Press Enter.

The Print Overlay display appears:


Print Overlay
Overlay . . . . . : STATIONE
Library . . . . . : OVLLIB
Type choices, press Enter.
Output queue . . . . . *JOB Name, *JOB
Library . . . . . Name, *LIBL, *CURLIB
Copies 1 1-255
Print fidelity . . . . . *CONTENT *CONTENT, *ABSOLUTE
Bottom
F3=Exit F5=Refresh F12=Cancel

The print overlay function allows you to print an overlay on an IPDS printer.

From this display, you can specify the name of an output queue, the number of copies, and print fidelity.

The following table describes the Print Overlay display.

Field Name	Description
Overlay	Shows the name of the overlay to be printed.
Library	Shows the name of the library in which the overlay resides.
Output queue	Specifies the name of the output queue in which the spooled file will be created. The possible values are: ***JOB** Specifies the output queue specified in the job description associated with this job is used. This is the default value. **output-queue-name** Specify the name of the output queue to be used.
Library	Specifies the name of the library to locate the output queue. The possible predefined values are: ***LIBL** The library list is used to locate the output queue. ***CURLIB** The current library for the job is used to locate the output queue. If no library is specified as the current library for the job, library QGPL is used. **library-name** Specify the library where the output queue resides.
Copies	Specify the number of copies you want to print. The range of valid values is 1 to 255.

Field Name	Description
Print fidelity	Specify the degree of exactness required when printing the overlay. The possible predefined values are: ***CONTENT** Prints the overlay using all available exception handling. ***ABSOLUTE** The job is printed only if the overlay can be printed exactly as specified by the data stream and external controls.

7=Rename Overlay

To rename an overlay, do the following on the Work with Overlays display on page 333.

1. Type 7 in the *Opt* column beside the overlay which you want to rename.
2. Press Enter.

The CL command RNMOBJ is called.

8=Display Overlay Description

To display an overlay description, do the following on the Work with Overlays display on page 333.

1. Type 8 in the *Opt* column beside the overlay for which you want to display the description.
2. Press Enter.

The CL command DSPOBJD is called.

9=Convert Overlay to Physical File Member

To convert an overlay to a physical file member, do the following on the Work with Overlays display on page 333.

Note: Before you use an overlay in the target system, you have to verify that the necessary resources to use that overlay (for example, font and page segment) are on the target system. Only transferring an overlay may be insufficient. You also have to check the version and the supported structured fields of the target system's Print Services Facility*.

An overlay which can be used on the AS/400 system cannot necessarily be used on the target system.

1. Type 9 in the *Opt* column beside the name of the overlay which you want to convert to a physical file member.
2. Press Enter.

The following display appears:

```
                          Convert Overlay to PFM

Overlay  . . . . . :   SMPLOVL
  Library  . . . . . :     QGPL

Type choices, press Enter.

  Format of data . . . . . .   _                 1=Fixed, 2=Continuous
  To file  . . . . . .         _____             Name, *VM, *MVS
    Library  . . . . . .         *CURLIB___      Name, *CURLIB
  To member  . . . . . .       *OVL_____         Name, *OVL
  Text 'description' . . . . . *OVLTXT
____                                                                    _
  Replace  . . . . . .         N                 Y=Yes, N=No
  Create file  . . . . . .     N                 Y=Yes, N=No









F3=Exit   F5=Refresh   F12=Cancel
```

1. Type data in the prompts.
2. Press Enter.

The *Text 'description'* prompt appears as follows when you specify 'Y' in the *Create file* prompt:

```
                          Convert Overlay to PFM

Overlay  . . . . . :   SMPLOVL
  Library  . . . . . :     QGPL

Type choices, press Enter.

  Format of data . . . . . .   _                 1=Fixed, 2=Continuous
  To file  . . . . . .         _____             Name, *VM, *MVS
    Library  . . . . . .         *CURLIB___      Name, *CURLIB
  To member  . . . . . .       *OVL_____         Name, *OVL
  Text 'description' . . . . . *OVLTXT
____                                                                    _
  Replace  . . . . . .         N                 Y=Yes, N=No
  Create file  . . . . . .     Y                 Y=Yes, N=No
  Text 'description' . . . . .  ________________________________________
____                                                                    _









F3=Exit   F5=Refresh   F12=Cancel
```

The following table describes the Convert Overlay to File display.

Field Name	Description
Overlay	Shows the name of the overlay to be converted to a physical file member.
Library	Shows the name of the library in which the overlay resides.
Format of data	Specifies how data is to be placed in the physical file member. The possible values are: **1** One record has one structured field. The padding character is binary 0s. The record length of the file using fixed format is the longest length of the AFPDS structured fields in the overlay. If the length of the existing file is smaller than the length of the longest structured field, an error message is displayed. If the length of the existing file is larger than the longest length of the structured field, padding characters are added to the end of the records. This format is for the VM or the MVS system. **2** The structured fields are filled continuously and folded. Only the last record has padding characters; the padding characters are binary 0s. Any record length of the existing file is allowed. The created record length of the file is 256 bytes. This format is for the OS/2*. This is a required parameter.
To file	Specifies the qualified name of the physical file being used to place the overlay data. The possible values are: ***VM** Specifies that the name OVLY38PP is used. It will be a valid file type for an overlay on the VM system. ***MVS** Specifies that the name O1xxxxxx is used. The 'xxxxxx' is the first six valid characters of the name specified in the *Overlay* prompt. It will be a valid member name for an overlay on the MVS system. *file-name* Specifies the file name in which to place the overlay data.
Library	The possible values are: ***CURLIB** The current library for the job is used to locate the file. If no library is specified as the current library for the job, QGPL is used. *library-name* Specify the library where the file resides.
Member	Specifies the name of the physical file member which is filled with the overlay data. The possible values are: ***OVL** Specifies that the name of the overlay shown in the *Overlay* field is used. *member-name* Specify the member name to place the overlay data.

Field Name	Description
Text 'description'	Specifies text that briefly describes the member and its function. The description should be specified with no more than 50 characters of text and enclosed in apostrophes. The possible values are: ***OVLTXT** Specifies the same description of the overlay shown in the *Overlay* field is used. *'description'* Specify the description of the member.
Replace	Specifies whether or not the physical file member replaces the existing physical file member if a physical file member of the same name already exists in the library. The possible values are: **N** A new physical file member is not created if an old physical file member of the same name already exists in the library. **Y** A new physical file member is created and the old physical file member is replaced by it.
Create file	Specifies whether or not the file is created if the file does not exist. The possible values are: **N** Do not create the file. **Y** Create the file.
Text 'description'	Specify text that briefly describes the file and its function. This prompt is valid only when `Y` is specified in the *Create file* prompt. The description should be specified with no more than 50 characters of text and enclosed in apostrophes.

13=Change Overlay Text

To change an overlay text, do the following on the Work with Overlays display on page 333.

1. Type `13` in the *Opt* column beside the overlay for which you want to change the description text.
2. Press Enter.

The CL command `CHGOBJD` is called.

Chapter 20. Work with Page Segments Function

The work with page segments function allows you to copy, delete, rename, and print a page segment, display and change the description of a page segment, and convert a page segment to a physical file member from the list of page segments found in the selected libraries.

To use the work with page segments function, type 23 on the Selection or command line on the IBM Advanced Function Printing Utilities for AS/400 menu on page 316 and press Enter. The Work with Page Segments display appears:

```
                          Work with Page Segments

Library . . . . . .   *LIBL       Name, *LIBL, *CURLIB
                                  *ALL, *USRLIBL, *ALLUSR
Page segment  . . . . .   *ALL     Name, generic*, *ALL
Position to . . . . . .   _____     Starting character(s)

Type options, press Enter.
  3=Copy   4=Delete   6=Print   7=Rename   8=Display description
  9=Convert to file   13=Change text

     Page
Opt  Segment   Library     Text
__   QFCPAGS   QAFP        SAMPLE PAGE SEGMENT - IM1 FORMAT
__   QFCPAGS2  QAFP        SAMPLE PAGE SEGMENT - IOCA FUNCTION SET 10 FORMAT
__   BEAR      QGPL        bear
__   QFCLOGO   QGPL        SAMPLE PAGE SEGMENT - IM1 FORMAT
__   QFCLOGO2  QGPL        SAMPLE PAGE SEGMENT - IOCA FUNCTION SET 10 FORMAT

                                                                      Bottom
Parameters or command
===> ____________________________________________________________________________
F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F11=Display names only
F12=Cancel
```

The Work with Page Segments display shows a list of page segments in the libraries that you specified. If you specified a page segment name or generic name for the *Page segment* prompt, only those page segments that match the specified values are included in the list.

You can copy, delete, rename, and print a page segment, display and change the description text of a page segment, and convert a page segment to a physical file member from the list of page segments.

The following tables describe the Work with Page Segments display.

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Prompts

Prompt	Description
Library	Specifies the names of the libraries that contains the page segments that you want to list. The possible library values in this prompt are: ***LIBL** The library list is used to create a list of the page segments. All page segments that reside in all libraries in the library list are included in the list. ***USRLIBL** The user portion of the library list is used to create a list of the page segments. ***CURLIB** The current library for the job is used to create a list of the page segments. If no library is specified as the current library for the job, library QGPL is used. ***ALL** All libraries in the system are used to create a list of the page segments. ***ALLUSR** All user libraries in the system are used to create a list of the page segments. All user libraries mean all libraries whose names do not start with Q in addition to library QGPL. **Name** The specified library is used to create a list of the page segments.
Page segment	Specifies the name of the page segment to be listed. You can use this prompt to work with page segments or a subset of page segments in the specified library. ***ALL** Specify *ALL for a list of all the page segments in the specified library. **generic*** Specify a partial page segment name qualified by an asterisk (*) to display a list of page segment names that start with the generic name. **Name** Specify the name of the page segment that you want to display in the list.
Position to	This prompt is used for quick repositioning of the list, not for creating a subset of the list. Choose one of the following: ***TOP** Specify *TOP to go to the top of the list. ***BOT** Specify *BOT to go to the bottom of the list. **name or partial name** Specifies the name or partial name you want to go to in the list. The list is positioned to the first name beginning with the string specified.

Options

Option	Description
3=Copy	Using this option, you can copy a page segment using the Create Duplicate Object (CRTDUPOBJ) command. Specify 3 (Copy) in the *Opt* column beside the page segment you want to copy and press Enter. If the page segment is to be copied into a different library, the library must exist. If the library does not exist, create the library by entering the Create Library (CRTLIB) command on any display with a command line.

Option	Description
4=Delete	Using this option, you can delete a page segment using the Delete Page Segment (DLTPAGSEG) command. Specify 4 (Delete) in the *Opt* column beside the page segment you want to delete and press Enter.
6=Print	Using this option, you can print a page segment. Specify 6 (Print) in the *Opt* column beside the page segment you want to print and press Enter.
7=Rename	Using this option, you can rename a page segment. Specify 7 (Rename) in the *Opt* column beside the page segment you want to rename and press Enter.
8=Display description	Using this option, you can display the description of a page segment using the Display Object Description (DSPOBJD) command. Specify 8 (Display description) in the *Opt* column beside the page segment for which you want to display the description and press Enter.
9=Convert to file	Using this option, you can convert a page segment to a physical file member. Specify 9 (Convert to file) in the *Opt* column beside the page segment which you want to convert to a physical file member and press Enter.
13=Change text	Using this option, you can change the description of a page segment using the Change Object Description (CHGOBJD) command. Specify 13 (Change description) in the *Opt* column beside the page segment for which you want to change the description and press Enter.

Columns

Column	Description
Opt	Specify the number of the option beside the page segment that you want to work with.
Page segment	Shows the name of the page segments in the libraries that you specified.
Library	Shows the names of the libraries in which the page segments reside.
Text	Shows the text that describes the page segments.

3=Copy Page Segment

To copy a page segment, do the following on the Work with Page Segments display on page 343.

1. Type `3` in the *Opt* column beside the page segment that you want to copy.
2. Press Enter.

The CL command `CRTDUPOBJ` will be called.

4=Delete Page Segments

To delete a page segment, do the following on the Work with Page Segments display on page 343.

1. Type `4` in the *Opt* column beside the page segment that you want to delete.
2. Press Enter.

The Confirm Delete of Page Segments display appears:

```
                        Confirm Delete of Page Segments

Press enter to confirm your choices for 4=Delete.
Press F12 to return to change your choices.

     Page
Opt  Segment   Library     Text
 4   BEAR      QGPL        bear
                                                                      Bottom
F11=Display names only   F12=Cancel
```

On this display, all the page segments that you specified to be deleted on the previous display are listed.

Press Enter to delete the page segments in the list or press F12 to cancel the deletion. When you press Enter, the CL command DLTPAGSEG is called.

The following table describes the Confirm Delete of Page Segments display.

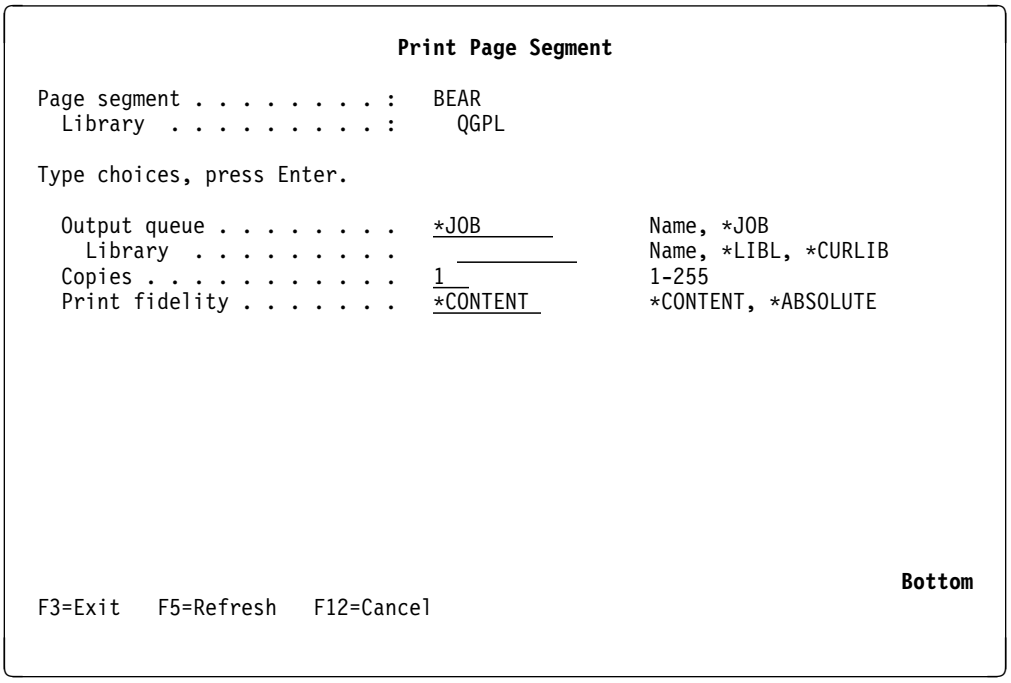
Field Name	Description
Opt	The *Opt* column shows the delete option. For this display, the number is always shown.
Page segment	The page segments which you specified to be deleted on the previous display are listed.
Library	The library that contains the page segments which you specified to be deleted on the previous display are listed.
Text	The text that describes the page segment which you specified to be deleted on the previous display is shown.

6=Print Page Segment

To print a page segment, do the following on the Work with Page Segments display on page 343.

1. Type 6 in the *Opt* column beside the page segment that you want to print.
2. Press Enter.

The Print Page Segment display appears:


Print Page Segment
Page segment . . . . . : BEAR
Library . . . . . : QGPL
Type choices, press Enter.
Output queue . . . . . *JOB Name, *JOB
Library . . . . . Name, *LIBL, *CURLIB
Copies 1 1-255
Print fidelity . . . . . *CONTENT *CONTENT, *ABSOLUTE
Bottom
F3=Exit F5=Refresh F12=Cancel

The print page segment function allows you to print a page segment on an IPDS printer.

From this display, you can specify the name of the output queue, the number of copies, and the print fidelity.

The following table describes the Print Page Segment display.

Field Name	Description
Page segment	Shows the name of the page segment to be printed.
Library	Shows the name of the library in which the page segment resides.
Output queue	Specifies the name of the output queue in which the spooled file will be created. The possible values are: ***JOB** Specifies that the output queue specified in the job description associated with this job is used. This is the default value. **output-queue-name** Specifies the name of the output queue to be used.
Library	Specifies the name of the library to locate the output queue. The possible predefined values are: ***LIBL** The library list is used to locate the output queue. ***CURLIB** The current library for the job is used to locate the output queue. If no library is specified as the current library for the job, library QGPL is used. **library-name** Specify the library where the output queue resides.
Copies	Specifies the number of copies you want to print. The range of valid values is 1 to 255.

Field Name	Description
Print fidelity	Specifies the degree of exactness required when printing the page segment. The possible predefined values are: ***CONTENT** Prints the overlay using all available exception handling. ***ABSOLUTE** The job is printed only if the overlay can be printed exactly as specified by the data stream and external controls.

7=Rename Page Segment

To rename a page segment, do the following on the Work with Page Segments display on page 343.

1. Type `7` in the *Opt* column beside the page segment that you want to rename.
2. Press Enter.

The CL command `RNMOBJ` will be called.

8=Display Page Segment Description

To display a page segment description, do the following on the Work with Page Segments display on page 343.

1. Type `8` in the *Opt* column beside the page segment name for which you want to display the description.
2. Press Enter.

The CL command `DSPOBJD` will be called.

9=Convert Page Segment to Physical File Member

To convert a page segment to a physical file member, do the following on the Work with Page Segments display on page 343.

Note: You have to check the version and the supported structured fields of the target system's Print Services Facility.

A page segment which can be used on the AS/400 system cannot necessarily be used on the target system.

1. Type `9` in the *Opt* column beside the name of the page segment which you want to convert to a physical file member.
2. Press Enter.

The following display appears:

```
                        Convert Page Segment to PFM

Page segment . . . . . :   QFCLOGO
  Library  . . . . . :     QGPL

Type choices, press Enter.

  Format of data . . . . . .   _                 1=Fixed, 2=Continuous
  To file  . . . . . . . . .   _____             Name, *VM, *MVS
    Library  . . . . . . . .     *CURLIB         Name, *CURLIB
  To member  . . . . . . . .   *PAGSEG          Name, *PAGSEG.
  Text 'description' . . . .   *PSGTXT
____
  Replace  . . . . . . . . .   N                 Y=Yes, N=No
  Create file  . . . . . . .   N                 Y=Yes, N=No




F3=Exit   F5=Refresh   F12=Cancel
```

1. Type data in the prompts.
2. Press Enter.

A *Text 'description'* prompt for the file appears when you specify 'Y in the *Create file* prompt: and press enter.

```
                        Convert Page Segment to PFM

Page segment . . . . . :   QFCLOGO
  Library  . . . . . :     QGPL

Type choices, press Enter.

  Format of data . . . . . .   _                 1=Fixed, 2=Continuous
  To file  . . . . . . . . .   _____             Name, *VM, *MVS
    Library  . . . . . . . .     *CURLIB         Name, *CURLIB
  To member  . . . . . . . .   *PAGSEG          Name, *PAGSEG.
  Text 'description' . . . .   *PSGTXT
____
  Replace  . . . . . . . . .   N                 Y=Yes, N=No
  Create file  . . . . . . .   Y                 Y=Yes, N=No
  Text 'description' . . . .   ____________________________________
____




F3=Exit   F5=Refresh   F12=Cancel
```

The following table describes the Convert Page Segment to File display.

Field Name	Description
Page segment	Shows the name of the page segment to be converted to a physical file member.
Library	Shows the name of the library in which the page segment resides.
Format of data	Specifies how data is to be placed in the physical file member. The possible values are: **1** Each record has one structured field. The remainder of the record is padded with binary 0s. The record length of the file using fixed format is the length of the longest AFPDS structured field in the page segment. If the record length of the existing file is less than the length of the longest structured field, an error message is displayed. If the record length of the existing file is more than the length of the longest structured field, padding with binary 0s occurs. This format is for the VM or the MVS system. **2** The structured fields are filled continuously and folded. Only the last record has padding characters; the padding characters are binary 0s. Any record length of the existing file is allowed. If the file is created by AFP Utilities for AS/400, the record length of the file is 256 bytes. This format is for the OS/2*. This is a required parameter.
To file	Specifies the qualified name of the physical file being used to place the page segment data. The possible values are: ***VM** Specifies that the name PSEG38PP is used. It will be a valid file type for a page segment on the VM system. ***MVS** Specifies that the name S1xxxxxx is used. The 'xxxxxx' are the first six valid characters of the name specified in the *Page segment* prompt. It will be a valid member name for a page segment on the MVS system. *file-name* Specifies the file name to place the page segment data.
Library	The possible values are: ***CURLIB** The current library for the job is used to locate the file. If no library is specified as the current library for the job, library QGPL is used. *library-name* Specify the library where the file resides.
Member	Specifies the name of the physical file member which is filled with the page segment data. The possible values are: ***PAGSEG** Specifies that the name of the page segment shown in the *Page segment* field is used. *member-name* Specifies the member name to place the page segment data.

Field Name	Description
Text 'description'	Specifies text that briefly describes the member and its function. The description should be specified with no more than 50 characters of text and enclosed in apostrophes. The possible values are: ***PSGTXT** Specifies the same description of the page segment shown in the *Page segment* field. *'description'* Specifies the description of the member.
Replace	Specifies whether or not a physical file member of the same name which already exists in the same file and library is to be replaced. The possible values are: **N** A new physical file member is not created if an old physical file member of the same name already exists in the file and library. **Y** A new physical file member is created which replaces the old physical file member.
Create file	Specifies whether or not the file is created if the file does not exist. The possible values are: **N** Do not create the file. **Y** Create the file.
Text 'description'	Specifies text that briefly describes the file and its function. This prompt appears only when `Y` is specified in the *Create file* prompt. The description should be specified with no more than 50 characters of text and enclosed in apostrophes.

13=Change Page Segment Text

To change a page segment description text, do the following on the Work with Page Segments display on page 343.

1. Type `13` in the *Opt* column beside the page segment for which you want to change the description text.
2. Press Enter.

The CL command `CHGOBJD` will be called.

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Chapter 21. AFP Utilities for AS/400 Commands

This chapter describes the commands for AFP Utilities for AS/400. The AFP Utilities for AS/400 provide the following eight commands:

- STRAFPU
- STROVLU
- STRPFU
- PRTPFDDTA
- CVTPCDPAGS
- CVTPFMPAGS
- CVTOVLPFM
- CVTPAGSPFM

You can enter the above commands on any display that contains the command line.

STRAFPU (Start AFP Utilities for AS/400) Command

The STRAFPU command displays the IBM Advanced Function Printing Utilities for AS/400 menu that allows you to use the AFP Utilities functions.

There are no parameters for this command.

STROVLU (Start Overlay Utility) Command

STROVLU command allows you to perform an option of the Overlay Utility directly without viewing the Work with Source Overlays display.

Figure 37 on page 356 shows the command syntax for STROVLU command.

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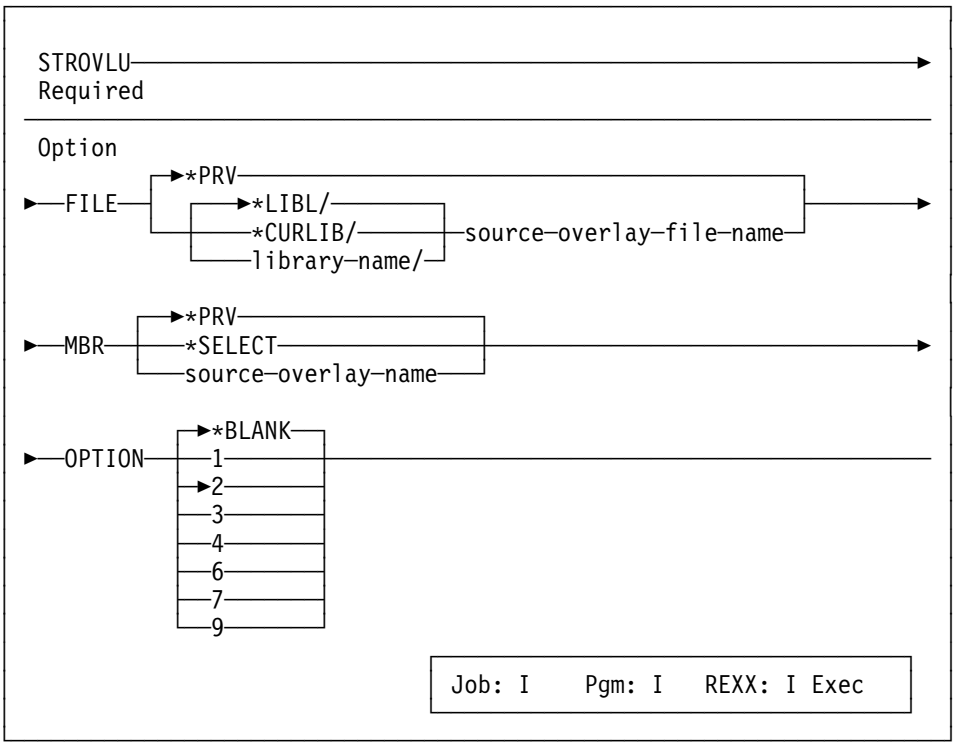

Figure 37. Command Syntax for STROVLU Command

The following describes the parameters for STROVLU command.

Source overlay file (FILE)

Specifies the source overlay file and library that contain the source overlay to be worked with.

The possible values are:

***PRV**

Specifies that the Overlay Utility is to use the name of the source overlay file and library used in your last overlay utility session. If you specify *PRV for the FILE parameter, it is not necessary to specify a library.

source-overlay-file-name

Specify the name of an existing source overlay file to be used. If you specify the source-overlay-file-name and a library name, Overlay Utility searches the specified library for the source overlay file. If you do not specify a library name, *LIBL is used.

The possible library values are:

***LIBL**

The library list is used to locate the file.

***CURLIB**

The current library for the job is used to locate the file. If no library is specified as the current library for the job, library QGPL is used.

library-name

Specify the library where the file is located.

Source overlay (MBR)

Specifies the name of the source overlay to be worked with or created. The default value for this parameter depends on whether or not you specify the FILE parameter.

The possible values are:

***SELECT**

This is the default value if you specify the FILE parameter. If you choose *SELECT, you will get the lists of all source overlays in the specified source overlay file and library. Select one or more source overlays to work with on the display.

***PRV**

This is the default value if you do not specify the FILE parameter. *PRV is the name of the previous source overlay that was used.

source-overlay-name

Specify the name of the source overlay you want to work with.

Option (OPTION)

Specifies the function to perform on the selected source overlay.

The possible values are:

***BLANK or ' '**

This is the default value if you do not specify a source overlay name. *BLANK specifies no action.

1=Create

Type 1 to create a source overlay.

2=Change

This is the default value if you specify a source overlay name.

Type 2 to change a source overlay.

3=Copy

Type 3 to copy a source overlay.

4=Delete

Type 4 to delete a source overlay.

6=Print

Type 6 to print a source overlay.

7=Rename

Type 7 to rename a source overlay.

9=Create overlay

Type 9 to create an overlay from a source overlay.

STRPFU (Start Print Format Utility) Command

This command allows you to perform an option of Print Format Utility directly without viewing the Work with PFD Definitions display. Figure 38 on page 358 shows the command syntax for STRPFU command.

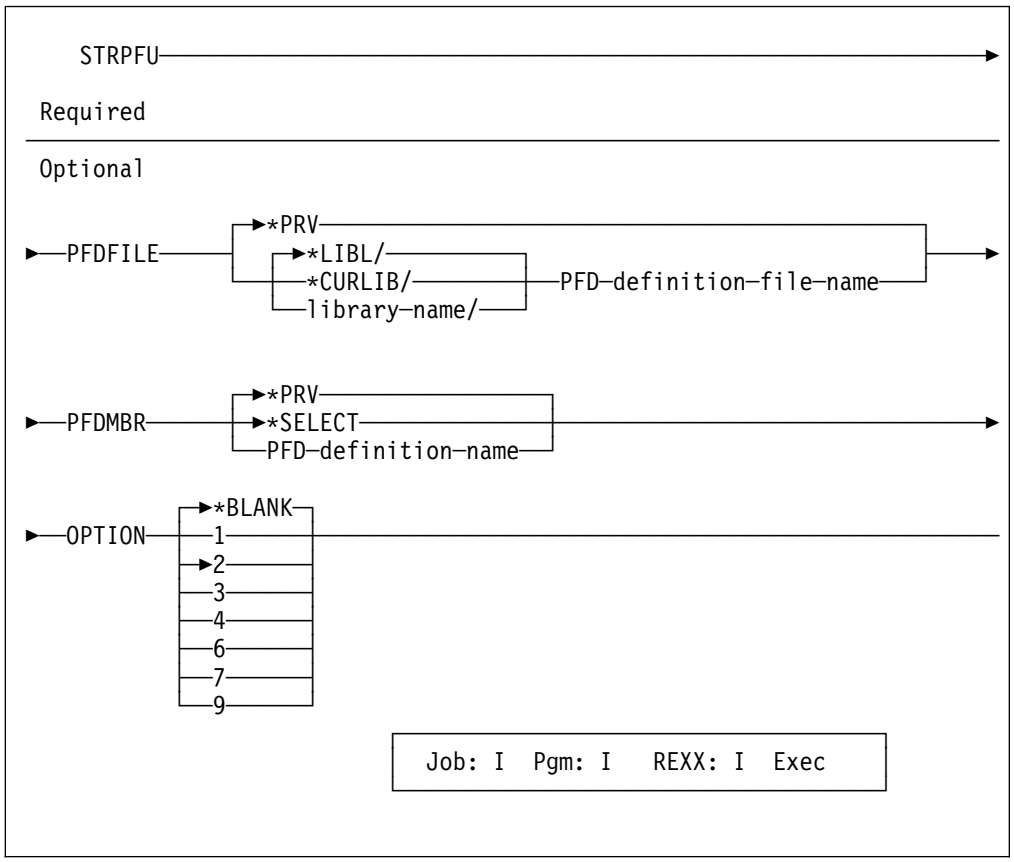

Figure 38. The Command Syntax for STRPFU Command

The following describes the parameters for STRPFU command.

PFD file (PFDFILE)

Specifies the PFD definition file and library that contain the PFD definition to be worked with.

The possible values are:

***PRV**

Specifies that the Print Format Utility is to use the name of the PFD definition file and library used in your last Print Format Utility session. If you specify *PRV for the PFDFILE parameter, it is not necessary to specify a library.

PFD-definition-file-name

Specify the name of an existing PFD definition file to be used. If you specify the PFD-definition-file-name and a library name, Print Format Utility searches the specified library for the PFD definition file. If you do not specify a library name, *LIBL is used.

The possible library values are:

***LIBL**

The library list is used to locate the file.

***CURLIB**

The current library for the job is used to locate the file. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library where the file is located.

PFD definition (PFDMBR)
Specifies the name of the PFD definition to be worked with or created. The default value for this parameter depends on whether or not you specify the PFDFILE parameter.

The possible values are:

***SELECT**
This is the default value if you specify the PFDFILE parameter. If you choose *SELECT, you will get the lists of all PFD definitions in the specified PFD definition file and library. Select one or more PFD definitions to work with on the display.

***PRV**
This is the default value if you do not specify the PFDFILE parameter. *PRV is the name of the previous PFD definition that was used.

PFD-definition-name
Specify the name of the PFD-definition you want to work with.

Option (OPTION)
Specifies the function to perform on the selected PFD definition. The default value depends on if you specify a PFD definition name.

The possible values are:

***BLANK or ' '**
This is the default value if you do not specify a PFD definition name. *BLANK specifies no action.

1=Create
Type 1 to create a PFD definition.

2=Change
This is the default value if you specify a PFD definition name.

Type 2 to change a PFD definition.

3=Copy
Type 3 to copy a PFD definition.

4=Delete
Type 4 to delete a PFD definition.

6=Print
Type 6 to print a PFD definition.

7=Rename
Type 7 to rename a PFD definition.

9=Print database file
Type 9 to print a database file member by using a PFD definition.

PRTPFDDTA (Print PFD Data) Command

This command allows you to print a database file member according to the design of a PFD definition.

Figure 39 on page 361 shows the command syntax for PRTPFDDTA command.

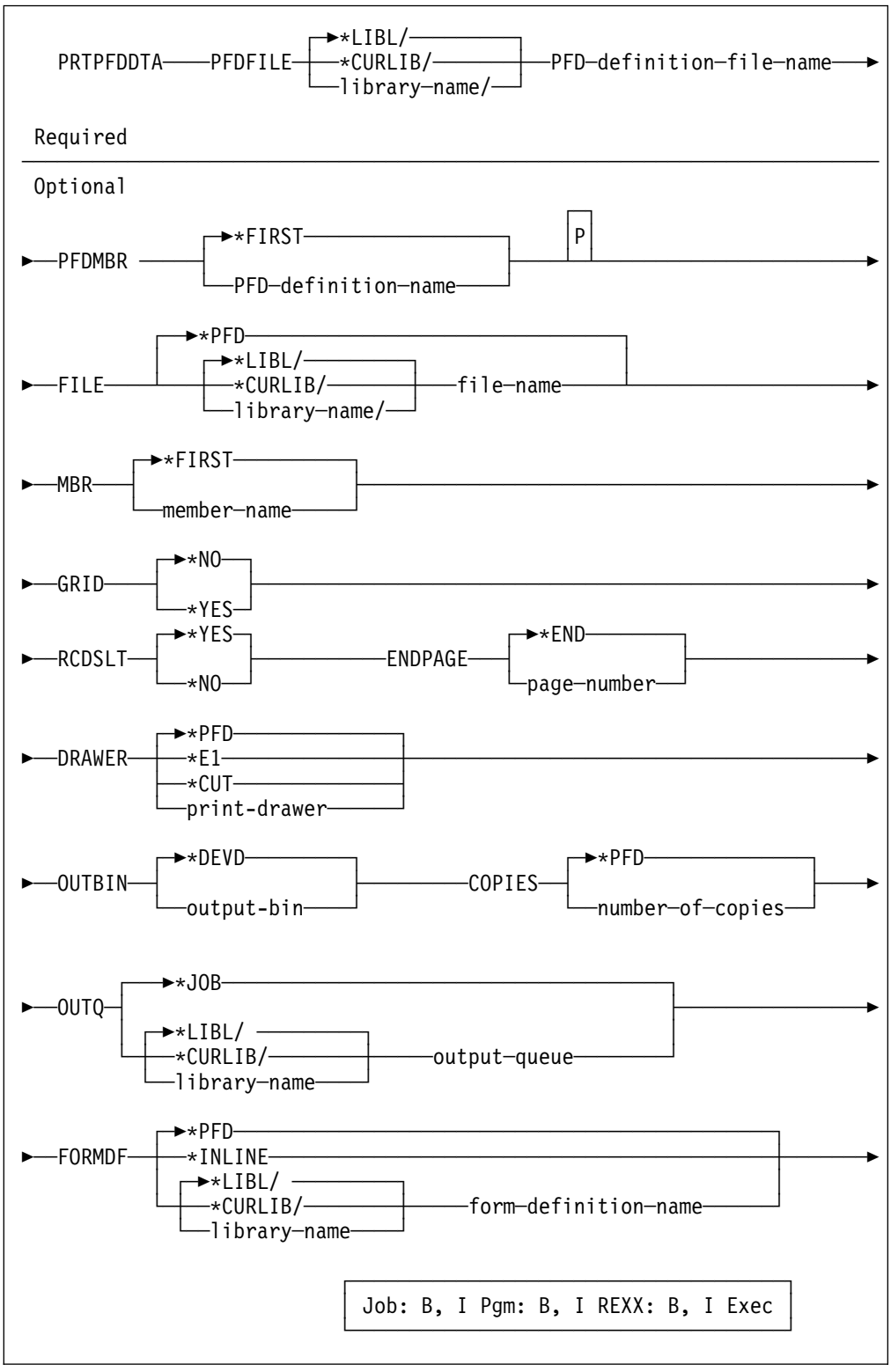

Figure 39. The Command Syntax for PRTPFDDTA Command

The following describes the parameters for PRTPFDDTA command.

PFD file (PFDFILE)

Specifies the PFD definition file and library that contain the PFD definition to be used.

The possible values are:

PFD-definition-file-name

Specify the name of an existing PFD definition file to be used. If you specify the PFD-definition-file-name and a library name, Print Format Utility searches the specified library for the PFD definition file. If you do not specify a library name, *LIBL is used.

The possible library values are:

***LIBL**

The library list is used to locate the file.

***CURLIB**

The current library for the job is used to locate the file. If no library is specified as the current library for the job, library QGPL is used.

library-name

Specify the library where the file is located.

PFD definition (PFDMBR)

Specifies the name of the PFD definition to be used to print a database file member.

The possible values are:

***FIRST**

This is the default value. The first PFD definition in the PFD definition file is used.

PFD-definition-name

Specify the name of the PFD-definition you want to use.

Database file (FILE)

Specifies the database file and library that contain the member to be printed.

The possible values are:

***PFD**

Specifies that the database file and library that are specified in the PFD definition is printed.

file-name

Specify the name of an existing database file to be used. If you specify the file-name and a library name, Print Format Utility searches the specified library for the database file. If you do not specify a library name, *LIBL is used.

The possible library values are:

***LIBL**

The library list is used to locate the file.

***CURLIB**
The current library for the job is used to locate the file. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library where the file is located.

Member (MBR)
Specifies the name of the member to be printed.

The possible values are:

***FIRST**
This is the default value. The first member in the database file is printed.

member-name
Specify the name of the member you want to print.

Include grid (GRID)
Specifies whether a grid is included in the printout or not. A grid consists of horizontal lines and vertical lines, and the distance between horizontal lines and that between vertical lines are specified in the PFD specifications.

The possible values are:

***NO**
This is the default value. A grid is not included in the printout.

***YES**
A grid is included in the printout.

Record selection (RCDSLT)
Specifies whether the records are selected according to the selection conditions specified in the PFD definition or not.

The possible values are:

***YES**
Type *YES if you want to select and print only those records that match the selection conditions specified in the PFD definition.

All records are printed if no conditions are specified in the PFD definition.

***NO**
Type *NO if you want to print all records regardless of the selection conditions specified in the PFD definition.

Ending page (ENDPAGE)
Specifies whether printing should stop at a certain page or continue until all records are processed.

The possible values are:

***END**
Specifies to print until all records are processed.

page-number
Specify the last page number to be printed. Print Format Utility stops printing when the last page specified by this parameter is printed or all records have been processed.

The possible value range is 1 - 9999.

Source drawer (DRAWER)
Specifies the source drawer used when single-cut sheets are fed into the printer. The possible values are:

***PFD**
The value specified in the printout specification is used. *PFD is the default.

***E1**
Envelopes are fed from the envelope drawer on the sheet-feed paper handler.

***CUT**
For printers with manual feed, cut sheets are fed manually through the manual feeder.

PV.source-drawer
Specify the drawer from which the paper is fed. Valid values range from 1 through 255. For printers with manual feed, specifying 100 is the same as specifying *CUT.

Output bin (OUTBIN)
Specifies the destination of the output on printers capable of multiple output bins. The possible values are:

***DEVD**
The value specified in the Device description is used. *DEVD is the default.

output bin
Specify the output bin for the destination of the output. Valid values range from 1 through 65535.

Copies (COPIES)
Specifies the number of copies to be printed.

The possible values are:

***PFD**
Specifies that the number specified in the PFD definition is used.

This is the default value.

number-of-copies
Specify the number of copies to be printed.

The possible value range is 1 - 255.

Output queue (OUTQ)
Specifies the qualified name of the output queue in which the spooled file will be created.

The possible values are:

***JOB**
Specifies the output queue specified in the job description associated with this job is used.

This is the default value.

output-queue-name
Specifies the name of the output queue to be used.

The possible library values are:

***LIBL**
The library list is used to locate the output queue.

***CURLIB**
The current library for the job is used to locate the output queue. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library where the output queue is located.

Form definition (FORMDF)
Specifies the qualified name of the form definition to use when printing the spooled file.

The possible values are:

***PFD**
Specifies that the form definition and library that are specified in the PFD definition will be used to print the member.

This is the default value.

***DEVD**
Specifies that the form definition specified in the device description for the printer will be used.

***INLINE**
Specifies that the Print Format Utility will create an inline form definition to be used when printing the data. The page width and length specified in the printout format definition will be placed in the created form definition for page control with continuous form printers. These values will be used when the page size control value for the printer is set to *YES. Use the Work with PSF Configurations (WRKPSFCFG) command to set the page size control value.

form-definition-name
Specifies the name of the form definition to be used.

The possible library values are:

***LIBL**
The library list is used to locate the form definition.

***CURLIB**
The current library for the job is used to locate the form definition. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library where the form definition is located.

CVTPCDPAGS (Convert PC Document to Page Segment) Command

CVTPCDPAGS command allows you to convert a PC document in a folder to a page segment. The PC document must contain IMDS (Image Data Stream) format image data or Image Object Content Architecture (IOCA) function set 10 data.

Figure 40 on page 367 shows the command syntax for the CVTPCDPAGS command.

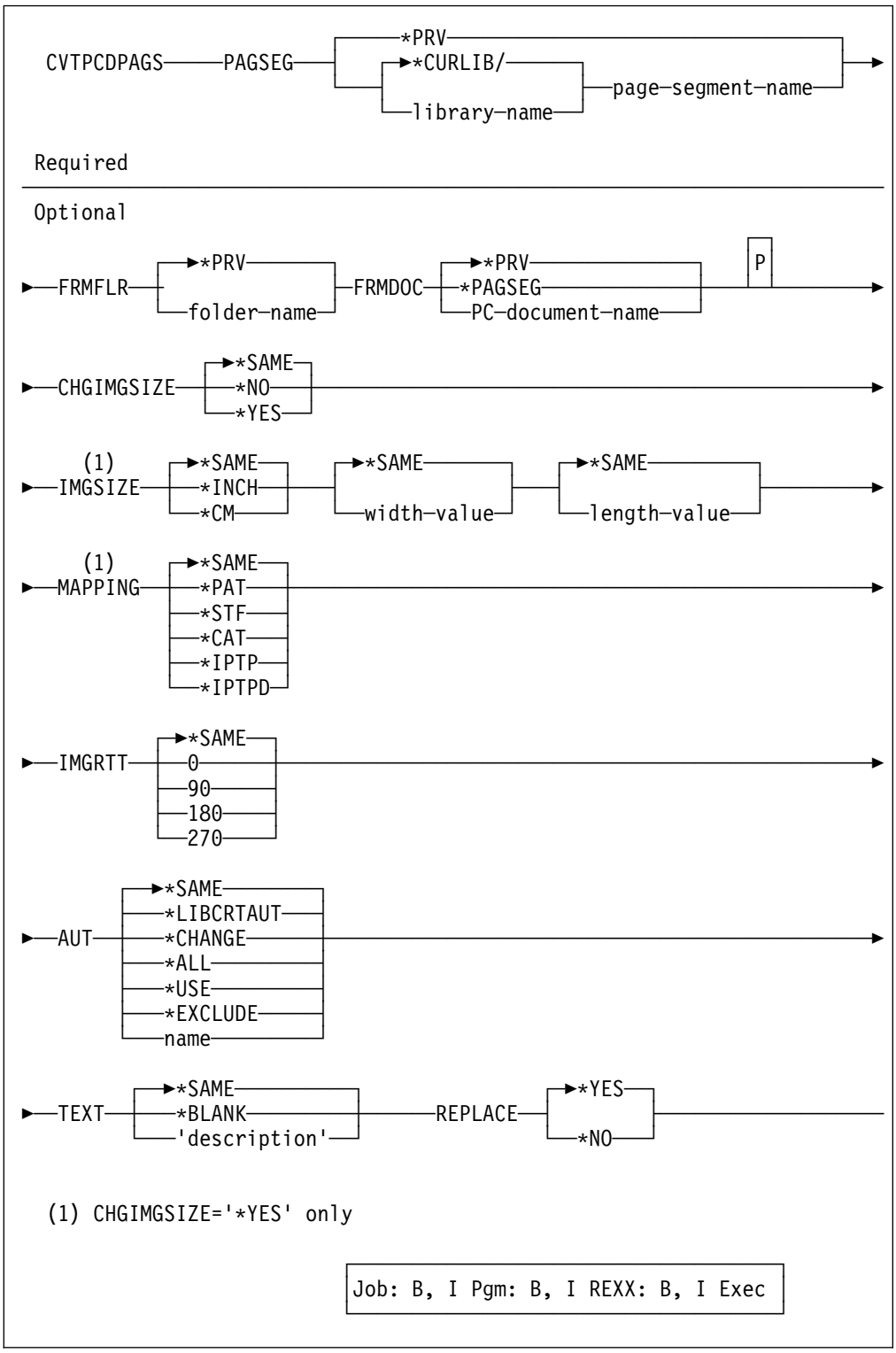

Figure 40. The Command Syntax for CVTPCDPAGS Command

The following describes the parameters for CVTPCDPAGS command.

Page segment (PAGSEG)

Specifies the qualified name of the page segment to be created. This is a required parameter.

The possible values are:

***PRV**
Specifies that the name of the page segment and library used when you performed this command last is used. If you specify *PRV for the PAGSEG parameter, it is not necessary to specify a library.

page-segment-name
Specify the name of the page segment to be created.

The possible library values are:

***CURLIB**
The current library for the job is used to create the page segment. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library in which the page segment will be created.

From folder (FRMFLR)
Specifies the name of the folder that contains the PC document to be converted.

The possible values are:

***PRV**
Specifies the name of the folder used when you previously created a page segment of the same name.

folder-name
Specify the folder name.

From PC document (FRMDOC)
Specifies the PC document name to be converted.

The possible values are:

***PRV**
Specifies the name of the PC document used when you previously created a page segment of the same name.

***PAGSEG**
Specifies that the name of the page segment to be created is the same as the name of the PC document.

PC-document-name
Specify the PC document name that is to be converted.

Change image size (CHGIMGSIZE)
Specifies whether the size of the image in the page segment is changed or not.

The possible values are:

***SAME**
Specifies the same value used for this parameter when you previously created a page segment of the same name. If this is the first page segment, the default value is *NO.

***NO**
Specifies not to change the image size.

***YES**
Specifies to change the image size.

If you specify *YES, the IMGSIZE and MAPPING parameters will appear, and you can specify the new image size in the page segment and how to map the input image to the size.

Image area size (IMGSIZE)
Specifies the unit of measurement, width, and length of the image to be created in the page segment.

Unit of measure
Specifies the unit of measure used to specify the following two parameters.

The possible values are:

***SAME**
Specifies the unit of measure used when you previously created a page segment of the same name.

***INCH**
Inch is used as the unit of measure.

***CM**
Centimeter is used as the unit of measure.

Width Specifies the width of the image to be created.

The possible values are:

***SAME**
Specifies the value of the width used when you previously created a page segment of the same name.

width-value
Specify the width value in the selected unit of measure.

Length Specifies the length of the image to be created.

The possible values are:

***SAME**
Specifies the value of the length used when you previously created a page segment of the same name.

length-value
Specify the length value in the selected unit of measure.

Mapping option (MAPPING)
Specifies how the input image is mapped to the specified size of the output image in the page segment.

The possible values are:

***SAME**
Specifies the mapping option used when you previously created a page segment of the same name.

***PAT (Position and trim)**
The top left corner of the input image is located to the top left corner of the output image area. The image size is not changed, and any

portion of the input image that falls outside of the output image size is trimmed.

***STF (Scale to fit)**
The center of the input image is located to the center of the output image area. The image size is changed so that the input image fits in the output image size.

***CAT (Center and trim)**
The center of the input image is located to the center of the output image area. The image size is not changed, and any portion of the input image that falls outside of the output image size is trimmed.

***IPTP (Image point to pel)**
The top left corner of the input image is located to the top left corner of the output image area. No resolution correction is done and each image point in the input image is mapped to a pel of the output printer. The image size may vary depending on the pel-density of the output printer, and any portion of the input image that falls outside of the output image size is trimmed.

***IPTPD (Image point to pel with double dot)**
The top left corner of the input image is located to the top left corner of the output image area. No resolution correction is done and each image point in the input image is doubled (replicated) in both dimensions and mapped to pels of the output printer. The image size may vary depending on the pel-density of the output printer, and any portion of the input image that falls outside of the output image size is trimmed.

Degree of rotation (IMGRTT)
Specifies the degree of the clockwise rotation of the output image. The center of the rotation is the top left corner of the image.

The possible values are:

***SAME**
Specifies the degree of rotation used when you previously created a page segment of the same name.

0 No rotation is done.

90 The image is rotated 90 degrees clockwise.

180
The image is rotated 180 degrees clockwise.

270
The image is rotated 270 degrees clockwise.

Authority (AUT)
Specifies the authority given to the user who does not have specific authority, who is not on the authorization list, or whose user group has no specific authority to the created page segment.

Note: This value is ignored and the current authority remains when you replace the existing page segment.

The possible values are:

***SAME**
Specifies the same value used for this parameter when you previously created a page segment of the same name. If this is the first page segment, the default value is *LIBCRTAUT.

***LIBCRTAUT**
The system determines the authority for the page segment by using the value specified for the Create authority prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the page segment to be created. If the value specified on the Create authority prompt (CRTAUT parameter) is changed, the new value will not affect this page segment.

***CHANGE**
Change authority allows the user to perform all operations on the page segment except those limited to the owner or controlled by object existence authority and object management authority. The user can change the page segment and perform basic functions on the page segment. Change authority provides object operational authority and all data authority.

***ALL**
All authority allows the user to perform all operations on the page segment except those limited to the owner or controlled by authorization list management authority. The user can control the page segment's existence, specify the security for the page segment, change the page segment, and perform basic functions on the page segment. The user cannot transfer ownership of the page segment.

***USE**
Use authority allows the user to perform basic operations on the page segment, such as read the page segment. The user is prevented from changing the page segment. Use authority provides object operational authority, read authority, and execute authority.

***EXCLUDE**
Exclude authority prevents the user from accessing the page segment.

authorization-list-name
Specify the name of an authorization list. Users included on the authorization list are granted authority to the page segment as specified by the list. The authorization list must exist when the page segment is created.

Text 'description' (TEXT)
Specifies text that briefly describes the page segment to be created.

The possible values are:

***SAME**
Specifies the text used when you previously created a page segment of the same name.

***BLANK**
Specifies the text is blank.

'description'
Specify no more than 50 characters of text, enclosed in apostrophes.

Replace (REPLACE)
Specifies whether or not the page segment replaces the existing page segment if a page segment of the same name already exists in the library.

The possible values are:

***YES**
A new page segment is created and the old page segment is replaced by it.

***NO**
A new page segment is not created if an old page segment of the same name already exists in the library.

CVTPFMPAGS (Convert Physical File Member to Page Segment) Command

This command allows you to convert a member in a physical database file to a page segment. The member must contain IMDS (IMage Data Stream) format or IOCA function set 10 image data.

Figure 41 on page 373 shows the command syntax for CVTPFMPAGS command.

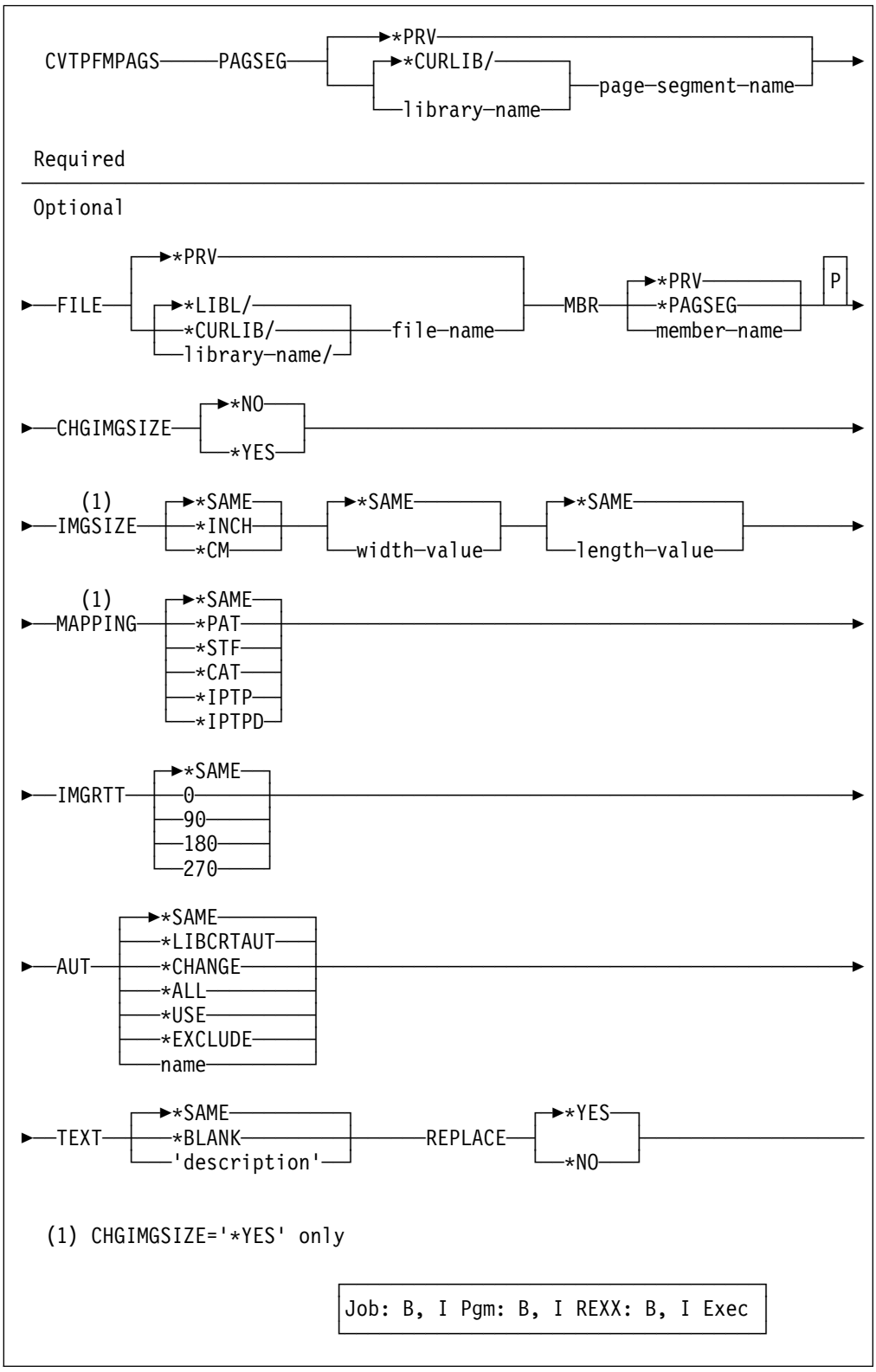

Figure 41. The Command Syntax for CVTPFMPAGS Command

The following describes the parameters for CVTPFMPAGS command.

Page segment (PAGSEG)

Specifies the qualified name of the page segment to be created. This is a required parameter.

The possible values are:

***PRV**
Specifies that the name of the page segment and library used when you performed this command last is used. If you specify *PRV for the PAGSEG parameter, it is not necessary to specify a library.

page-segment-name
Specify the page segment name to be created.

The possible library values are:

***CURLIB**
The current library for the job is used to create the page segment. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library in which the page segment will be created.

From file (FILE)
Specifies the qualified name of the physical file that contains the member to be converted.

The possible values are:

***PRV**
Specifies the file and library used when you previously created a page segment of the same name.

file-name
Specify the name of an existing physical database file to be used. If you do not specify a library name, *LIBL is used.

The possible library values are:

***LIBL**
The library list is used to locate the file.

***CURLIB**
The current library for the job is used to locate the file. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library where the file is located.

From member (MBR)
Specifies the name of the physical file member to be converted.

The possible values are:

***PRV**
Specifies the member name used when you previously created a page segment of the same name.

***PAGSEG**
Specifies that the name of the page segment to be created is the same as the name of the member.

member-name
Specify the member name that is to be converted.

Change image size (CHGIMGSIZE)
Specifies whether the size of the image in the page segment is changed or not.

The possible values are:

***SAME**
Specifies the same value used for this parameter when you previously created a page segment of the same name. If this is the first page segment, the default value is *NO.

***NO**
Specifies not to change the image size.

***YES**
Specifies to change the image size.

If you specify *YES, the IMGSIZE and MAPPING parameters will appear, and you can specify the new image size in the page segment and how to map the input image to the size.

Image area size (IMGSIZE)
Specifies the unit of measurement, width, and length of the image to be created in the page segment.

Unit of measure
Specifies the unit of measure used to specify the following two parameters.

The possible values are:

***SAME**
Specifies the unit of measure used when you previously created a page segment of the same name.

***INCH**
Inch is used as the unit of measure.

***CM**
Centimeter is used as the unit of measure.

Width Specifies the width of the image to be created.

The possible values are:

***SAME**
Specifies the value of the width used when you previously created a page segment of the same name.

width-value
Specify the width value in the selected unit of measure.

Length Specifies the length of the image to be created.

The possible values are:

***SAME**
Specifies the value of the length used when you previously created a page segment of the same name.

length-value
Specify the length value in the selected unit of measure.

Mapping option (MAPPING)
Specifies how the input image is mapped to the specified size of the output image in the page segment.

The possible values are:

***SAME**
Specifies the mapping option used when you previously created a page segment of the same name.

***PAT (Position and trim)**
The top left corner of the input image is located to the top left corner of the output image area. The image size is not changed, and any portion of the input image that falls outside of the output image size is trimmed.

***STF (Scale to fit)**
The center of the input image is located to the center of the output image area. The image size is changed so that the input image fits in the output image size.

***CAT (Center and trim)**
The center of the input image is located to the center of the output image area. The image size is not changed, and any portion of the input image that falls outside of the output image size is trimmed.

***IPTP (Image point to pel)**
The top left corner of the input image is located to the top left corner of the output image area. No resolution correction is done and each image point in the input image is mapped to a pel of the output printer. The image size may vary depending on the pel-density of the output printer, and any portion of the input image that falls outside of the output image size is trimmed.

***IPTPD (Image point to pel with double dot)**
The top left corner of the input image is located to the top left corner of the output image area. No resolution correction is done and each image point in the input image is doubled (replicated) in both dimensions and mapped to pels of the output printer. The image size may vary depending on the pel-density of the output printer, and any portion of the input image that falls outside of the output image size is trimmed.

Degree of rotation (IMGRTT)
Specifies the degree of the clockwise rotation of the output image. The center of the rotation is the top left corner of the image.

The possible values are:

***SAME**
Specifies the degree of rotation used when you previously created a page segment of the same name.

0 No rotation is done.

90 The image is rotated 90 degrees clockwise.

180
The image is rotated 180 degrees clockwise.

270
The image is rotated 270 degrees clockwise.

Authority (AUT)
Specifies the authority given to the user who does not have specific authority, who is not on the authorization list, or whose user group has no specific authority to the created page segment.

Note: This value is ignored and the current authority remains when you replace the existing page segment.

The possible values are:

***SAME**
Specifies the same value used for this parameter when you previously created a page segment of the same name. If this is the first page segment, the default value is *LIBCRTAUT.

***LIBCRTAUT**
The system determines the authority for the page segment by using the value specified for the Create authority prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the page segment to be created. If the value specified on the Create authority prompt (CRTAUT parameter) is changed, the new value will not affect this page segment.

***CHANGE**
Change authority allows the user to perform all operations on the page segment except those limited to the owner or controlled by object existence authority and object management authority. The user can change the page segment and perform basic functions on the page segment. Change authority provides object operational authority and all data authority.

***ALL**
All authority allows the user to perform all operations on the page segment except those limited to the owner or controlled by authorization list management authority. The user can control the page segment's existence, specify the security for the page segment, change the page segment, and perform basic functions on the page segment. The user cannot transfer ownership of the page segment.

***USE**
Use authority allows the user to perform basic operations on the page segment, such as read the page segment. The user is prevented from changing the page segment. Use authority provides object operational authority, read authority, and execute authority.

***EXCLUDE**
Exclude authority prevents the user from accessing the page segment.

authorization-list-name
Specify the name of an authorization list. Users included on the authorization list are granted authority to the page segment as specified by the list. The authorization list must exist when the page segment is created.

Text 'description' (TEXT)
Specifies text that briefly describes the page segment to be created.

The possible values are:

***SAME**
Specifies the text used when you previously created a page segment of the same name.

***BLANK**
Specifies the text is blank.

'description'
Specify no more than 50 characters of text, enclosed in apostrophes.

Replace (REPLACE)
Specifies whether or not the page segment replaces the existing page segment if a page segment of the same name already exists in the library.

The possible values are:

***YES**
A new page segment is created and the old page segment is replaced by it.

***NO**
A new page segment is not created if an old page segment of the same name already exists in the library.

CVTOVLPFM (Convert Overlay to Physical File Member) Command

This command allows you to convert an overlay (object) to a member in a physical database file. The overlay converted to a physical database file can be transferred to the VM, the MVS, and the OS/2 system.

Figure 42 on page 379 shows the command syntax for CVTOVLPFM command.

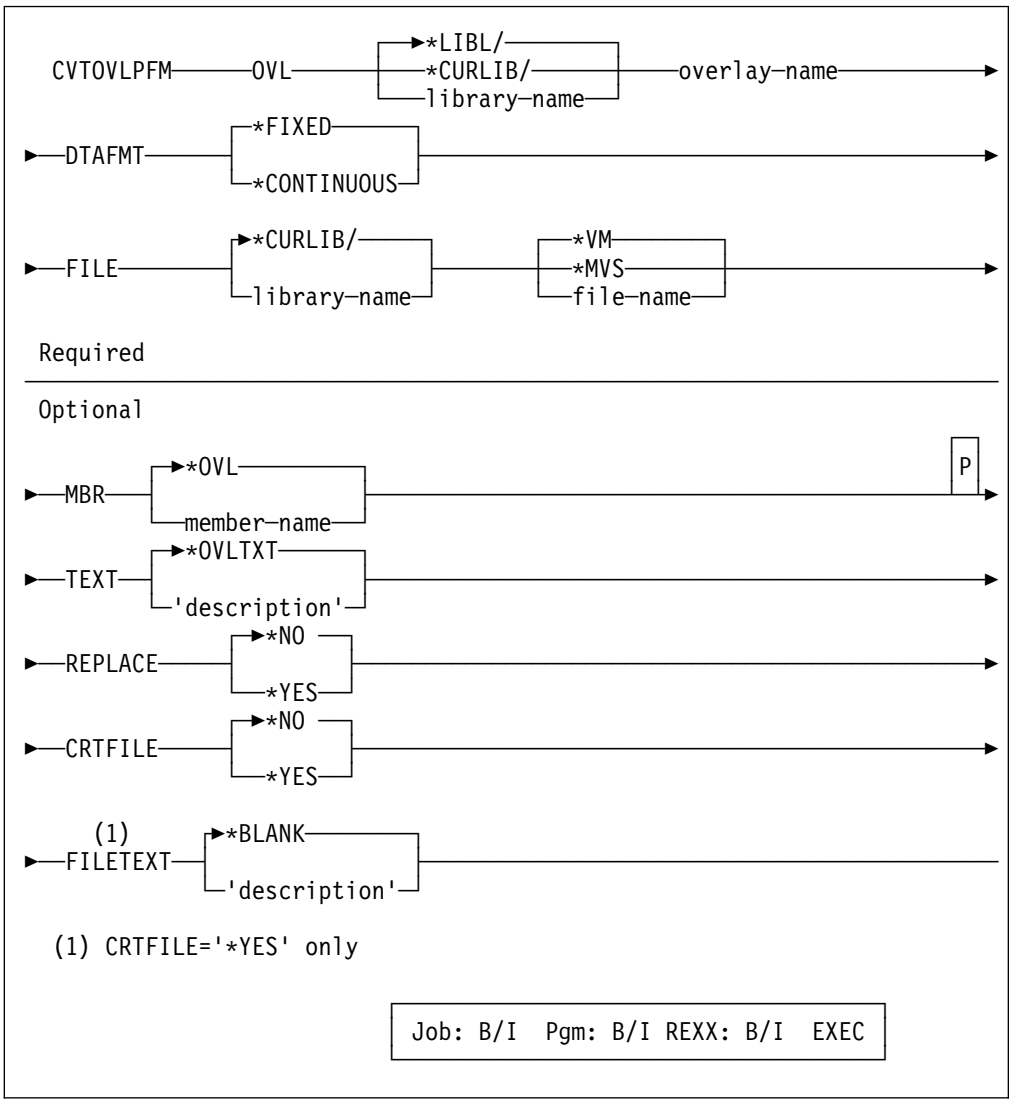

Figure 42. The Command Syntax for CVTOVLPFM Command

The following describes the parameters for CVTOVLPFM command.

Overlay (OVL)

Specifies the qualified name of the overlay that is converted to a physical file member. This is a required parameter.

***LIBL**

The library list is used to locate the overlay.

***CURLIB**

The current library for the job is used to locate the overlay. If no library is specified as the current library for the job, library QGPL is used.

library-name

Specify the library where the overlay is located.

Format of data (DTAFMT)

Specifies how data is placed in a physical file member.

The possible values are:

***FIXED**
One record has one structured field. The padding character is binary 0s. The record length of the fixed format file is the length of the longest AFPDS structured field in the overlay. If the length of the existing file is smaller than the length of the longest structured field, an error message is displayed. If the length of the existing file is larger than the length of the longest structured field, padding characters are added to the end of the records. This format is for the VM or the MVS system.

***CONTINUOUS**
The structured fields are filled continuously and folded. Only the last record has padding characters; the padding characters are binary 0s. Any record length of the existing file is allowed. The created record length of the file is 256 bytes. This format is for the OS/2.

This is a required parameter.

To file (FILE)
Specifies the qualified name of the physical file being used to fill the overlay data.

The possible values are:

***VM**
Specifies that the name OVLY38PP is used. It will be a valid file type for an overlay on the VM system.

***MVS**
Specifies that the name O1xxxxxx is used. The 'xxxxxx' is the first six valid characters of the name specified in the OVL parameter. It will be a valid member name for an overlay on the MVS system.

file-name
Specifies the file name to fill the overlay data.

The library list is used to locate the overlay.

***CURLIB**
The current library for the job is used to locate the file. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library where the file is located.

To member (MBR)
Specifies the name of the physical file member which is filled with the overlay data.

The possible values are:

***OVL**
Specifies the name of the overlay specified in the OVL parameter.

member-name
Specify the member name to fill the overlay data.

Text 'description' (TEXT)

Specifies text that briefly describes the member and its function. The description should be specified with no more than 50 characters of text and enclosed in apostrophes.

The possible values are:

***OVLTXT**
Specifies the same description of the overlay specified in the overlay object.

'description'
Specify the description of the member.

Replace (REPLACE)

Specifies whether or not the physical file member replaces the existing physical file member if a physical file member of the same name already exists in the library.

The possible values are:

***NO**
A new physical file member is not created if an old physical file member of the same name already exists in the library.

***YES**
A new physical file member is created and the old physical file member is replaced by it.

Create file (CRTFILE)

Specifies whether or not the file is created if the file does not exist.

The possible values are:

***NO**
Do not create the file.

***YES**
Create the file.

Text 'description' (FILETEXT)

Specifies text that briefly describes the file and its function. This prompt is valid only when the CRTFILE parameter is *YES. The description should be specified with no more than 50 characters of text and enclosed in apostrophes.

The possible values are:

***BLANK**
No text is specified.

'description'
Specify the description of the file.

Note: Before you use an overlay in the target system, you have to verify that the necessary resources to use that overlay (for example, font and page segment), are in the target system. Only transferring an overlay may be insufficient. You also have to check the version and the supported structured fields of the target system's PSF*.

An overlay which can be used on the AS/400 system cannot necessarily be used on the target system.

CVTPAGSPFM (Convert Page Segment to Physical File Member) Command

This command allows you to convert a page segment to a member in a physical database file. The page segment converted to a physical database file can be transferred to the VM, the MVS, and the OS/2 system.

Figure 43 shows the command syntax for CVTPAGSPFM command.

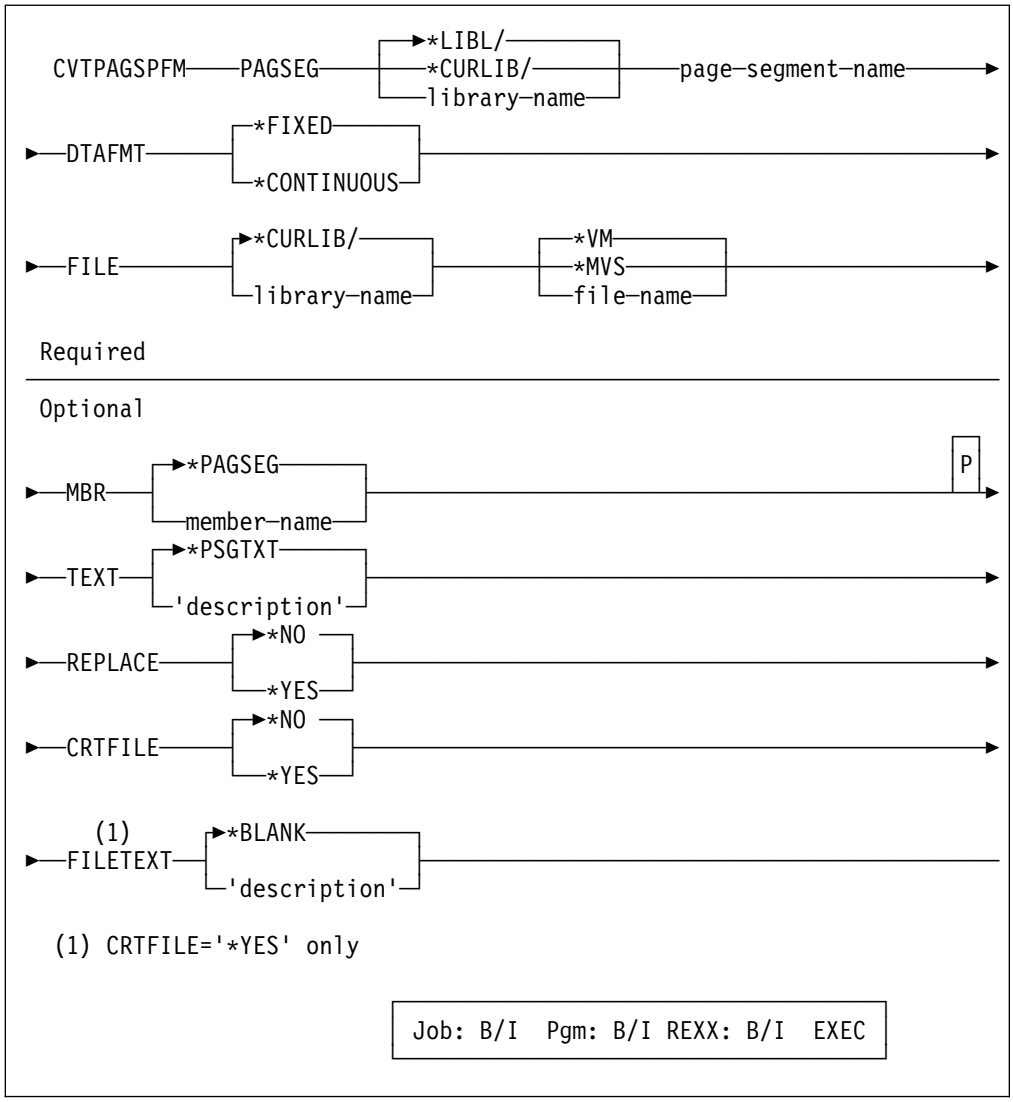

Figure 43. The Command Syntax for CVTPAGSPFM Command

The following describes the parameters for CVTPAGSPFM command.

Page segment (PAGSEG)

Specifies the qualified name of the page segment that is converted to a physical file member. This is a required parameter.

***LIBL**
The library list is used to locate the page segment.

***CURLIB**
The current library for the job is used to locate the page segment If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library where the page segment is located.

Format of data (DTAFMT)
Specifies how data is placed in a physical file member.

The possible values are:

***FIXED**
One record has one structured field. The padding character is binary 0s. The record length of the file using fixed format is the length of the longest AFPDS structured fields in the page segment. If the length of the existing file is smaller than the length of the longest structured field, an error message is displayed. If the length of the existing file is larger than the length of the longest structured field, padding characters are added to the end of the records. This format is for the VM or the MVS system.

***CONTINUOUS**
The structured fields are filled continuously and folded. Only the last record has padding characters; the padding characters are binary 0s. Any record length of the existing file is allowed. The created record length of the file is 256 bytes. This format is for the OS/2 system.

This is a required parameter.

To file (FILE)
Specifies the qualified name of the physical file being used to fill the page segment data.

The possible values are:

***VM**
Specifies that the name PSEG38PP is used. It will be a valid file type for a page segment on the VM system.

***MVS**
Specifies that the name S1xxxxxx is used. The 'xxxxxx' are the first six valid characters of the name specified in the PAGSEG parameter. It will be a valid member name for a page segment on the MVS system.

file-name
Specify the file to place the page segment data in.

***CURLIB**
The current library for the job is used to locate the file. If no library is specified as the current library for the job, library QGPL is used.

library-name
Specify the library where the file is located.

To member (MBR)
Specifies the name of the physical file member which is filled with the page segment data.

The possible values are:

***PAGSEG**
Specifies the name of the page segment specified in the PAGSEG parameter.

member-name
Specify the member name to fill the page segment data.

Text 'description' (TEXT)
Specifies text that briefly describes the member and its function. The description should be specified with no more than 50 characters of text and enclosed in apostrophes.

The possible values are:

***PSGTXT**
Specifies the same description of the page segment specified in the PAGSEG parameter.

'description'
Specify the description of the member.

Replace (REPLACE)

Specifies whether or not the physical file member replaces the existing physical file member if a physical file member of the same name already exists in the library.

The possible values are:

***NO**
A new physical file member is not created if an old physical file member of the same name already exists in the library.

***YES**
A new physical file member is created and the old physical file member is replaced by it.

Create file (CRTFILE)
Specifies whether or not the file is created if the file does not exist.

The possible values are:

***NO**
Do not create the file.

***YES**
Create the file.

Text 'description' (FILETEXT)
Specifies text that briefly describes the file and its function. This prompt is valid only when CRTFILE parameter is *YES. The description should be specified with no more than 50 characters of text and enclosed in apostrophes.

The possible values are:

***BLANK**
No text is specified.

'description'
Specify the description of the file.

Note: You must check the version and the supported structured fields of the target system's PSF.

A page segment which can be used on the AS/400 system cannot necessarily be used on the target system.

Chapter 22. Limitations and Restrictions

This chapter describes the limitations and the restrictions that you need to know to use the AFP Utilities for AS/400.

Overlay Utility

Limitations

Minimum and Maximum Limitations

Item	Minimum limitation	Maximum limitation
Number of elements in a source overlay.	0	999
Width of overlay	0.1 inches	22.75 inches
Height of overlay	0.1 inches	22.75 inches
Number of page segments in a source overlay	0	999 Each printer has its own limitations. Most printers allow 127 page segments maximum. The storage size of the printer may also limit the number.
Number of graphics in a source overlay	0	999 The storage size of the printer may limit the number.
Length of text	1 (may be blank)	203
number of text lines in a box element	0 (no text)	51

Dashed and Dotted Lines

If the length of a line is too small compared with the line width, dashed and dotted lines are printed as solid lines.

The minimum length of this limitation depends on the line width.

Line Width and Overlay Size

If a line or a box is near the edge of the overlay and the line width is too big, some portion of the line may exceed the overlay size although the line or the box element is inside.

In this case, no lines are printed for that element and an error message is displayed.

Element Position

If you specify the overlay size in inches or centimeters and specify an element position in inches or centimeters, you may not be allowed to specify the position, although the position is inside the overlay size. This can occur at positions near the right edge or bottom of the overlay. The position, specified in inches or centimeters, must be inside the overlay when it is expressed in rows and columns. For example:

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```
Characters per line ..............  10
Lines per inches  ................  6
Overlay width ....................  5.15 inches
                                   (51 columns)
        height ...................  6.1 inches
                                   (36 lines)

Position Across ..................  5.12 inches is not allowed since
                                    it will be in the 52nd column.
         Down ....................  6.05 inches is not allowed since
                                    it will be in the 37th line.
```

When you use a 300-pel printer to print a text element whose character size is not *DEFAULT, it may not print when the position of the text element is too close to the bottom of the overlay. In such cases, the text element should be moved to an upper location or the height of the overlay size should be increased.

Restrictions

Source Overlay File

If a file meets the following four conditions, it is shown on the Work with Source Overlay Files display as a source overlay file even if it is not created as a source overlay file.

- The file is a physical file
- The file is not a source file
- The file is not a DDM file
- The record length is 80

It is recommended that you use files created using the overlay utility.

Font

1. It is not checked if the specified font exists. If the font does not exist, errors are issued when your printout with the overlay is sent to the printer.
2. It is not checked if the specified font is an SBCS font or a DBCS font. If you specify a DBCS font for SBCS characters or specify an SBCS font for DBCS characters, the result depends on the text to be printed. The text may be printed with unexpected characters, or not printed with some errors.
3. On the Work with Source Overlay Fonts display you can select *DEFAULT to specify the default font value of the text element, the box element, or the graphics element. When you print an overlay using *DEFAULT without any changes, the Courier 10 font (FONT ID 11) is sent to the printer. When you use a type 1 printer (IBM 4224/4234/4230) under the printer mode which doesn't have Courier 10, (such as the draft mode of the 4224 printer), you can not print with *ABSOLUTE for the print fidelity. In such cases, select *CONTENT for the print fidelity.

Page Segment

1. The program does not verify if the specified page segment exists. If the page segment does not exist in a library in the library list of the job, errors are issued when your printout is sent to the printer.
2. When a printout with an overlay is sent to the printer, the libraries in the library list of the job that created the printout are searched to locate the specified page segment.

   You need to do the following before you create a printout with the overlay:

   - Put the correct page segment in a library.
   - Put the library in the library list.
   - Make sure the library that contains the desired page segment appears in the library list before any other library containing a page segment of the same name.
3. It is unpredictable which font will be used if a page segment contains text. The font used to print the text can not be specified. Depending on the situation, a font specified for text within a page segment may be used, or the printer default font may be used.
4. It is not checked if a page segment contains either or both IM1 and IO1 format images. IM1 images may not be printed in the desired resolution on some printers, and IO1 images cannot be printed on some printers. When IOCA images are used, AFP Utilities support only IOCA function set 10.

   See Appendix A, “Printer Characteristics” on page 413 for restrictions of each printer.
5. When 90, 180, or 270 is specified in the *Degree of rotation* prompt on the Define Overlay Specifications screen, page segments defined in the source overlay do not rotate with the overlay.

Line

Nothing is printed for lines that have a greater width than length.

Box

Nothing is printed for boxes that have line width specified which is greater than either the box width or the box height.

Text in Box

Text in a box is formatted by using the character spacing parameter specified on the box element. If the font size is different, formatting is incorrect.

For example:

```
Character spacing :
  Horizontal..................... 10
  Vertical.......................  6

Font for text in a box
  width ..........................  0.2 inches ( 5 CPI )
  height .........................  0.33 inches ( 3 CPI )
```

Text will be printed to the right of the correct position for center. The second and subsequent lines will partly duplicate the preceding lines.

To avoid this situation, specify the character spacing value equal to that of the font.

Shading in Box

It sometimes takes a long time to print shaded boxes (especially with the IBM 4028 printer).

Graphics (GDF) Size

AFP Utilities for AS/400 has no limitations and restrictions for the graphics (GDF) size, but printing an overlay which contains some large graphics (GDF) or too many graphics may cause a printer storage excess error. In such cases, check the printer storage size.

Text Font in Graphics (GDF)

When a graphics element contains text characters, the text is printed using the font which is specified for the graphics element.

Overlay object authority

When you replace an existing overlay by creating an overlay, the *Authority* parameter is ignored and the authority of the existing overlay remains.

Printer Dependencies

Each printer has some unique restrictions. For example, some printers do not allow the data stream to print text vertically.

See Appendix A, “Printer Characteristics” on page 413 for restrictions of each printer.

Print Format Utility

Limitations

Minimum and Maximum Limitations

Item	Minimum limitation	Maximum limitation
Number of elements in a PFD definition.	0	999 for a record layout and 999 for a page layout. Therefore, the total for a PFD definition is 1998.
Width of page	0.1 inches	22.75 inches
Height of page	0.1 inches	22.75 inches
Number of page segments in a record layout and a page layout.	0	999 for both Each printer has its own limitations. Most printers allow 127 page segments maximum. The storage size of the printer may also limit the number.
Number of repeated record layout in the page layout	0	999
Number of graphics in a PFD definition.	0	999 The storage size of the printer may limit the number.

Item	Minimum limitation	Maximum limitation
Length of text	1 (may be blank)	203
number of text lines in a box element	0 (no text)	51
Number of mapping object names for one object type.	0	99

Dashed and Dotted Lines

If the length of a line is too small as compared with the line width, dashed and dotted lines are printed as solid lines.

The minimum length of this limitation depends on the line width.

Line Width and Page Size

If a line or a box is near the edge of the page and the line width is too big, some portion of the line may exceed the page size although the line or box element is inside.

In this case, no lines are printed for that element and an error message is displayed.

Element Position

If you specify the page size in inches or centimeters and specify an element position in inches or centimeters, you may not be allowed to specify the position, although the position is inside the page size.

This can occur at positions near the right edge or bottom of the page. The position, specified in inches or centimeters, must be inside the page when it is expressed in rows and columns. For example:

```
Characters per line ..............  10
Lines per inches  ................   6
Page width .......................   5.15 inches
                                   (51 columns)
     height ......................   6.1 inches
                                   (36 lines)

Position Across ..................   5.12 inches is not allowed since
                                     it will be 52nd column.
         Down ....................   6.05 inches is not allowed since
                                     it will be 37th line.
```

When you use a 300-pel printer to print a text element whose character size is not *DEFAULT, it may not print when the position of the text element is too close to the bottom of the page. In such cases, the text element should be moved higher in the page or the height of the page size should be increased.

Restrictions

PFD Definition File

If a file meets the following four conditions, it is shown on the Work with PFD Definition Files display as a PFD definition file even if it is not created as a PFD definition file.

- The file is a physical file
- The file is not a source file
- The file is not a DDM file
- The record length is 80

It is recommended that you use files created using the Print Format Utility.

Font

1. It is not checked if the specified font exists. If the font does not exist, errors are issued when your printout is sent to the printer.
2. It is not checked if the specified font is an SBCS font or a DBCS font. If you specify a DBCS font for SBCS characters or specify an SBCS font for DBCS characters, the result depends on the text to be printed. The text may be printed with unexpected characters, or not printed with some errors.
3. On the Work with PFD Definition Fonts display you can select *DEFAULT to specify the default font value of the text element, the box element, or the graphics element. When you print a page using *DEFAULT without any changes, the Courier 10 font (FONT ID 11) is sent to the printer. When you use the type 1 printer (IBM 4224/4234/4230) under the printer mode which does not have Courier 10, (such as the draft mode of the 4224 printer), you can not print a page with *ABSOLUTE for the print fidelity. In such cases, select *CONTENT for the print fidelity.

Page Segment

1. It is not checked if the specified page segment exists. If the page segment does not exist in a library in the library list of the job, errors are issued when your printout is sent to the printer.
2. When a database file printout is sent to the printer, the libraries in the library list of the job that created the printout are searched to locate the specified page segment.

   You need to do the following before you print a database file member with a PFD definition:

   - Put the correct page segment in a library.
   - Put the library in the library list.
   - Make sure the library that contains the page segment appears in the library list before any other library containing a page segment of the same name.
3. It is unpredictable which font will be used if a page segment contains text. The font used to print the text can not be specified. Depending on the situation, a font specified for text within a page segment may be used, or the printer default font may be used.
4. The program does not verify if a page segment contains either or both IM1 and IO1 format images. IM1 images may not be printed in desired resolution on

some printers, and IO1 images cannot be printed on some printers. When IOCA images are used, AFP Utilities support only IOCA function set 10.

See Appendix A, “Printer Characteristics” on page 413 for restrictions of each printer.

5. When 90, 180, or 270 is specified in the *Degree of rotation* prompt on the Define PFD Specifications screen, the page segments defined in the PFD definition do not rotate with the page layout.

Line

Nothing is printed for lines which have a greater width than length.

Box

Nothing is printed for boxes which have a line width specified which is greater than either the box width or the box height.

Text in Box

Text in a box is formatted by using the character spacing parameter specified on the box element. If the font size is different, formatting is incorrect.

For example:

```
Character spacing :
  Horizontal..................... 10
  Vertical.......................  6

Font for text in a box
  width .........................  0.2 inches ( 5 CPI )
  height ........................  0.33 inches ( 3 CPI )
```

Text will be printed to the right of the correct position for center. The second and subsequent lines will partly duplicate the preceding lines.

To avoid this situation, specify the character spacing value equal to that of the font.

Shading in Box

It sometimes takes a long time to print shaded boxes (especially with the IBM 4028 printer).

Graphics (GDF) Size

AFP Utilities for AS/400 has no limitations and restrictions for the graphics (GDF) size, but printing a page which contains some large graphics (GDF) or too many graphics may cause a printer storage excess error. In such cases, check the printer storage size.

Text Font in Graphics (GDF)

When a graphics element contains text characters, the text is printed using the font which is specified for the graphics element.

Printer Dependencies

Each printer has some unique restrictions. For example, some printers do not allow the data stream to print text vertically.

See Appendix A, “Printer Characteristics” on page 413 for restrictions of each printer.

Resource Management Utility

Limitations

None.

Restrictions

IMDS (IOCA) Data Stream

Input IMDS (IOCA) data must be correct. Only IOCA function set 10 is supported. Some parameters are checked, but some are not checked. If input IMDS data is not correct, the result is unpredictable. It may be printed with some errors, or may not be printed.

The bytes 3-6 (logical units per unit base) field in the Image Size Parameter Image Order, which appears in the Image Picture Data structured field, must not be 0.

Print Operation

The content of an overlay and a page segment is not checked for whether or not it can be printed on the destination printer.

See Appendix A, “Printer Characteristics” on page 413 for the detail of the restrictions of each printer.

Creating Page Segment

When you replace the existing page segment by creating a page segment, the *Authority* parameter is ignored and the current authority remains.

Converting an Overlay to a Physical File Member

Note: Before you use an overlay in the target system, you should verify that the necessary resources to use that overlay, for example, font, page segment, are on the target system. Only transferring an overlay may be insufficient. You also should check the version and the supported structured fields of the target system's PSF.

An overlay which can be used on the AS/400 system cannot necessarily be used on the target system.

Converting the Page Segment to a Physical File Member

Note: You should check the version and the supported structured fields of the target system's PSF.

A page segment which can be used on the AS/400 system cannot necessarily be used on the target system.

Sending Source Overlays and PFD Definitions

When you transfer a source overlay or a PFD definition to another AS/400 system, you should not send it directly with the SNDNETF command. Instead, you should send it as a saved file as follows. Otherwise, it will not be recognized as a source overlay or a PFD definition on the destination AS/400 system.

On the source AS/400 system:

1. Create a save file.

   ```
   CRTSAVF SRCOVLSAVF
   ```

2. Save a source overlay file or a PFD definition file.

   ```
   SAVOBJ OBJ(SRCOVLFILE) LIB(OVLLIB) DEV(*SAVF) SAVF(SRCOVLSAVF)
   ```

3. Send the saved file.

   ```
   SNDNETF SRCOVLFILE TOUSRID((USER NEWSYS))
   ```

On the target AS/400 system:

1. Create a save file.

   ```
   CRTSAVF SRCOVLSAVF
   ```

2. Issue WRKNETF command.

   ```
   WRKNETF
   ```

3. Receive the file into the newly created save file with option 1.

4. Restore the save file:

   ```
   RSTOBJ OBJ(*ALL) SAVLIB(OVLLIB) DEV(*SAVF) SAVF(SRCOVLSAVF)
   ```

Note: All source overlays or PFD definitions in the file are sent together.

Chapter 23. Problem Analysis

If a problem occurs while you are using the IBM Advanced Function Printing Utilities for AS/400 or its output is being printed, the cause of the problem may not be obvious. An error in your application, in the system environment, or the IBM Advanced Function Printing Utilities for AS/400 are all possible causes of an error condition. The problem analysis procedure in this chapter can help you isolate the cause of the problem and solve it. If you need more information, refer to "Contacting Your Service Representative" on page 407.

How to Use This Procedure

Before you use this procedure, you should be aware of the restrictions. See Chapter 22, "Limitations and Restrictions" on page 387 for general restrictions, and Appendix A, "Printer Characteristics" on page 413 for the restrictions of printers.

This procedure is arranged as a sequence of questions to which you can answer *Yes* or *No*. Depending on your answer, you are either directed to another question or to a recommendation for action. The number in the box shows the sequence number of the step.

"Common Symptoms and Possible Causes" on page 402 and "Sense Codes and Possible Causes" on page 405 are also provided to help you reach the cause quickly. You may be directed to one of these lists by the following procedure.

Start at Question 1 and follow the question-and-answer sequence, answering each question to which you are directed. If the problem is a condition that requires more detailed procedures, you are referred to those procedures.

Identifying Problems

When a problem occurs, follow the procedures below to pinpoint its possible cause:

0100: Problem Analysis Procedures

001

Did the problem occur after a spooled file had been created? (This question asks if programs of IBM Advanced Function Printing Utilities for AS/400 have completed and you have problems with the spooled file; for example, you cannot print the spooled file or the printout is not as expected.)

Yes **No**

002

Go to Step 014 on page 399

003

(Step **003** continues)

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003 (continued)

Was your printout different from what you expected? (If you do not receive anything although you expect a printout, your answer is 'Yes'.)

Yes **No**

004

Go to Step 009

005

– See “Common Symptoms and Possible Causes” on page 402 and follow the directions.

Do you still have the problem?

Yes **No**

006

The problem was resolved.

007

Does the printer have the current PTF level?

See the manual for your printer to verify the PTF level.

Yes **No**

008

– Do the following:

1. Install the current level of PTF.
2. Retry the IBM Advanced Function Printing Utilities for AS/400 function.

009

(From step 004)

Were there any messages in the print writer's message queue indicating an error condition that prevented the print writer job from completing the job?

Yes **No**

010

Go to Step 029 on page 402

011

– See “Sense Codes and Possible Causes” on page 405 and follow the directions.
(Step **011** continues)

011 (continued)

Do you still have the problem?

Yes **No**

012

The problem was resolved.

013

Go to Step 029 on page 402

014

(From step 002)

Did you receive a message indicating an error condition that prevented you from completing the task?

Yes **No**

015

Go to Step 017

016

– Take the actions indicated by the message. If the action requires you to call for help, see “Contacting Your Service Representative” on page 407.

  When you examine a message to see what actions are required, check the following:

  - Second-level message text, which describes the message in more detail. To display the second-level message text, position the cursor on the message line and press the F1 (Help) key.
  - Cause and Recovery, if applicable, for an explanation of the possible cause of the problem and for appropriate recovery actions.

  You may be receiving more than one message. A plus sign (+) at the end of the message indicates there are more messages being sent. To see the remaining messages, position the cursor on the message line and press the Roll Up (Page Down) key.

  If you still cannot solve your problem after fully examining the message, see “Contacting Your Service Representative” on page 407.

017

(From step 015)

Has the input inhibited light stayed on longer than expected?

Yes **No**

018

Go to Step 022 on page 401

019

– Press the Error/Reset key. If the light does not go off, do one of the following:

  - Press the System Request key and press the Enter key. When the system request menu appears, start an alternate job.
  - Go to another work station and sign on.

  Enter the Work with Subsystem (WRKSBS) command to request the Work with Subsystems display. Choose the **Work with subsystems jobs** option for the subsystem you are running under. Look for a job entry that has the same job name as the work station with the problem. If two entries are shown, look at both. Write down the names.

Does the job entry (or entries) indicate a status of HELD?
Yes No

020

You could have a loop or wait state. Do the following to gather helpful information

Type the Work Job (WRKJOB) command and press the F4 (Prompt) key. Choose the following values for the command parameters:

Parameter Value

Job name Job name, user name, and job number for the failing job.

Output *PRINT to print the job information for later use.

1. When the Work with Job menu appears, select option 11 (Display the program stack). Press the Print key to print the program stack for the failing job.

   The program stack lists the instruction the program is currently on. This may help you determine why the loop or delay occurred.

2. Press the F3 (Exit) key until you return to the Command Entry display.
3. Type the End Job (ENDJOB) command to cancel the failing job. For example:

   ```
   ENDJOB JOB(008298/QUSER/DSP01)
   ```

   Check with the system operator to ensure that the job log for the failing job is printed. The job log is a record of each program action and any messages resulting from these program actions.

   Note: Your job log should be printed if you use the default value for the log limit (LOGLMT) parameter on the ENDJOB command. If the job description specifies a 0 for the message level in the LOG parameter, a job log is not printed.

4. Examine the job log to find out why the problem occurred.

   If you cannot solve the problem, see “Contacting Your Service Representative” on page 407.

021

(Step **021** continues)

021 (continued)

– Enter 6 in the input prompt next to the job name to release the job.

022

(From step 018)

Did you send a source overlay or PFD definition to another AS/400 and you can not use it on the destination AS/400 system?

Yes **No**

023

Go to Step 025

024

See “Sending Source Overlays and PFD Definitions” on page 395 for more information.

025

(From step 023)

Is the current version and release of the IBM Advanced Function Printing Utilities for AS/400 on your system?

To verify the version and release number of your system, type

```
GO LICPGM
```

Select 'Display installed licensed programs' on the menu, and look at the installed release of 5716-SS1 on the list.

To verify the version and release number of the IBM Advanced Function Printing Utilities for AS/400, look at the installed release of 5716-AF1 on the list.

The IBM Advanced Function Printing Utilities for AS/400 must have the same version and release number as the IBM OS/400 operating system.

Yes **No**

026

Do the following:

1. Install the current version and release level of IBM Advanced Function Printing Utilities for AS/400.
2. Install all current program changes to IBM Advanced Function Printing Utilities for AS/400.
3. Retry the IBM Advanced Function Printing Utilities for AS/400 function.

See the *Software Installation* for a description of how to install IBM Advanced Function Printing Utilities for AS/400 and make program changes.

027

(Step **027** continues)

027 (continued)

Have all IBM-supplied program changes that you received for the current release of IBM Advanced Function Printing Utilities for AS/400 been installed?

Yes **No**

028

Install the program changes that have not yet been applied and try the IBM Advanced Function Printing Utilities for AS/400 function again. See the *Software Installation* for a description of how to install program changes.

029

(From steps 010 and 013)

– Do the following if you require additional assistance:

- Cancel the failing job and print the job log. Sign off the work station, choosing *LIST for the LOG parameter. For example

  ```
  SIGNOFF LOG(*LIST)
  ```

  Call the system operator to verify that the job log was printed.

- Follow the directions in the “Contacting Your Service Representative” on page 407

Common Symptoms and Possible Causes

The following shows common problems and their possible causes.

Your problem may match more than one item in the table. For example, if you print a page segment and it is not printed; you may need to check both "Nothing is printed." and "Image (page segment) is not printed.".

Your specified font type may be changed by the system. In that case, a message is sent to the message queue of the printer writer that indicates font substitution.

Symptom	Possible Causes
Nothing is printed	• The printer writer is not started. • There are many spooled files in the output queue. (This is not an error. You should wait for your turn, or increase the priority of your spooled file.) • The printer is not an IPDS printer. • The printer is not configured for Advanced Function Printing. • The output queue that contains your spooled file is not associated with an active printer writer. • The printer writer is waiting for a message reply. • You specified *ABSOLUTE for print fidelity and some errors occurred. See the message queue of the printer writer or specify *CONTENT for print fidelity. • The overlay size or page size exceeds the printable area. See the manual of your printer for the size of the printable area. If the offset values of the form definition are not zero, you must add the values to check. The form definition name is specified in the device description of the printer. See *Printer Device Programming* for the offset values of the form definition. • You specified a font of font type 1 (specified with a font and character identifier) or did not specify any font although the printer supports only font type 2 (specified with a coded font) and font type 3 (specified with a code page and a font character set). • You specified a font of font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set) although the printer supports only font type 1 (specified with a font and character identifier) • The print data exceeds the size of printer storage.
Page number is not printed	• You specified a page size that is larger than the paper. The page number is printed at the center of the last line of the page.
Bar code is not printed	• The printer does not support the specified type of bar code. • The printer does not support the degree of rotation for bar code. (If you rotate the overlay or page, the degrees of rotation must be specified for the bar code.) • If the bar code is printing a field in a database, the value or length of the field is not correct for the bar code type.
Image (page segment) is not printed	• The image is not in a library in the library list when the spooled file is created. • The image was deleted before the spooled file was printed. • The printer does not support IO1 image, but the image was an IO1 image. **Note:** I01 and I0CA Function Set 10 are synonymous. • You specified rotation and the image went outside of the page. • The number of page segments exceeds the printer's allowable maximum. Most printers allow a maximum of 127 page segments in a page. • The page segment has no image in it. • A field in a database file is used in a page segment but the value or the length of the field is not correct.

Symptom	Possible Causes
Graphics is not printed	• The printer does not support graphics. • The printer does not support the degree of rotation for graphics. (If you rotate the overlay or page, the degree of rotation must be specified for the graphic.) • If a field in a database file contains a graphic object name, and the value or the length of the field is not correct. • You specified *ABSOLUTE for the print fidelity for a printer which does not support colors other than black. Graphics (GDF) has a color that is not supported by such a printer in general. Specify *CONTENT for print fidelity.
One or more elements are not printed	• The element has been removed. • The specified font is not available. • You specified a font incorrectly; for example, you specified a SBCS font for DBCS text. • The line width is 0. • The record layout has no element. • You specified a font of font type 1 (specified with a font and character identifier) or did not specify any font although the printer supports only font type 2 (specified with a coded font) and font type 3 (specified with a code page and a font character set). • You specified a font of font type 2 (specified with a coded font) and font type 3 (specified with a code page and a font character set) although the printer supports only font type 1 (specified with a font and character identifier) • You specified a color that is not supported by the printer.
Different image (page segment) is printed	• The image is not in a library in the library list when the spooled file is created or another image resides in a library that is higher in the library list. • The image is changed before the spooled file is printed. • The image is an IM1 image and the density (usually 240 pels per inch) is different from that of the printer. • You specified a different mapping option when you created the page segment.
Text lines overlap	• The height of the font is not the same as the value specified for the lines per inch on the Overlay Specifications display or the PFD Specifications display.
Text in a box is not formatted correctly	• The font size is not the same as the value specified for the character spacing on the box element.
Font is not as expected	• The specified font does not exist and it was substituted by another font. • If the printer is different, the printout may somewhat vary although the same font is specified.
Character size is not as expected	• You specified different values for width and height of the character size, but some printers do not support different values and the smaller value is used for both width and height. • The printer does not support changing the character size. • The text uses a font of font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set) although you cannot change the character size for these types of fonts. • The font has more spaces around the characters than you expected. (The width and height specifies the font size including spaces around characters.)

Symptom	Possible Causes
Element position is not as expected	• You might have misunderstood the element position. The position depends on the element type. See “Element Type and Position” on page 407 for detail. • The value of the Unit of measure is different. • You changed the measurement method. This may cause the element to move within the same row/column position even though you change the measurement method again.
Text is not as expected	• The field you specified for the text does not exist in the file. • You specified rotation, but the printer does not support it. (If you rotate the overlay or page, the degrees of rotation must be specified for the text element.) • You specified the vertical format, but the printer does not support it. • You specified a color that is not supported by the printer. • You specified a value too small for the *Character size* prompt on the Define Text Detail display or the Change Text Detail display and your printer is the 4224 printer, the 4234 printer, or the 4230 printer.
Text in graphics is not as expected.	• The size you specified for the graphics element is small and your printer is the 4224 printer, the 4234 printer, or the 4230 printer.
The length of the dotted or the dashed line is not correct	• You specified a different printer type in the overlay specifications or the PFD specifications.
Shading in the box element is not correct	• You specified a different printer type in the overlay specifications or the PFD specifications.

Sense Codes and Possible Causes

Some messages sent to the message queue of the printer writer show the sense data returned by the printer. To see the sense data, position the cursor to the message and press the F1 (Help) key. The second-level message appears, and its cause shows the sense data if applicable. For example,

```
...
the corresponding sense data is X'0118'..X'02'  X'01'. Processing of the
...
```

01, 18, and 02 is the sense byte 0, 1, and 19.

The following table shows typical sense bytes and their possible causes:

Sense Bytes 0, 1, 19	Description and Possible Causes	Recovery
0218..02	Invalid font ID: You specified the vertical format of text although its font is font type 1 (specified with a font and character identifier)	Specify the horizontal format or use a font of font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set).

Sense Bytes 0, 1, 19	Description and Possible Causes	Recovery
0300..01	Unallocated or unsupported graphics command code: You specified both of the following for the text although your printer supports only black. • A value other than *DEFAULT and 8=Black for the *Color* prompt. • A value other than *DEFAULT for the *Character size* prompt.	Specify *DEFAULT for the *Color* prompt.
0300..0E	Unsupported attribute value An attribute value for a graphics order of your GDF is not supported by your printer.	Specify *CONTENT for print fidelity or use the standard default value for the attribute.
03C3..00	Character symbol set not available: You specified the vertical format of the text with Character size value other than *DEFAULT though its font is font type 1 (specified with a font and character identifier)	Specify the horizontal format or use a font of font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set).
0403..00	Unsupported bar code type: You specified a bar code type that is not supported by the printer.	Change the bar code type or the printer.
0405..00	Unsupported bar code color: You specified a value other than *DEFAULT or 8=Black for the *Color* prompt of the bar code although your printer supports only black color.	Specify *DEFAULT for the *Color* prompt.
0406..00	Unsupported unit/module width: You specified a module width value of a bar code that is not supported by the printer.	Change the module width or the printer.
0821..00	Undefined character: One or more characters in the text have a code point that is not defined. • An attempt to print a record in the database file member with one or more characters whose code points are not defined is made. • A record in the database file member contains characters not supported by the bar code type specified for a bar code. • The font specified to print text is not correct. For example, a DBCS font is specified for SBCS text.	Use correct data and correct font.
08C1..00	Position check: Overlay size is too large.	Reduce the overlay size.

Contacting Your Service Representative

If you cannot solve a problem using the problem analysis procedure listed in this appendix, you may want to contact your service representative. Before contacting your service representative, be prepared to provide the following information:

- A copy of the display on which the problem occurred and the values specified.

  If a copy is not obtained because you cannot press the Print key, provide the title of the display, all values you specified, and the key you pressed.
- A copy of the source overlay or PFD definition being processed (if applicable).
- A copy of the input database file (if applicable).

If the problem occurred while your spooled file was being printed, the following is also required:

- A copy of the page segment being used.
- A copy of the spooled file being printed.
- A copy of the job log of the printer writer.
- A copy of the printout.

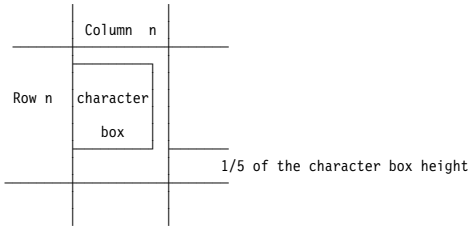
Element Type and Position

The positions of the elements have subtle differences depending on the element type.

Text Element and Position

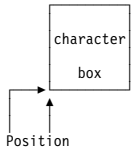
Measurement Method is Row/Column

The left edge of the character is positioned to the left edge of the column. The bottom of the character is positioned one fifth of the character height above the bottom of the row.



Measurement Method is Inch or Centimeter

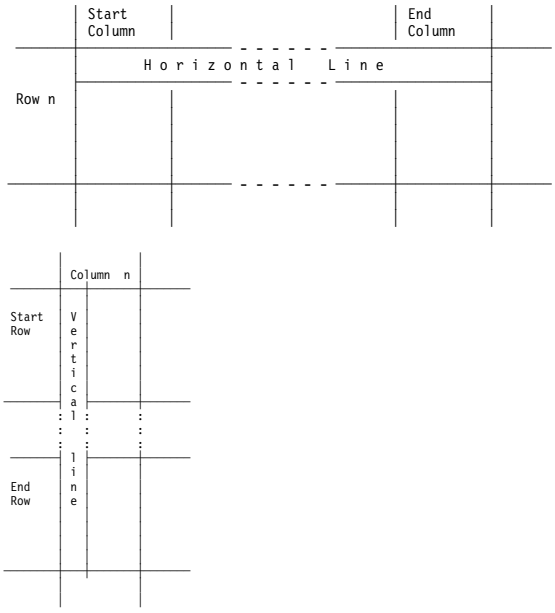
The left edge of the character is positioned to the horizontal position. The bottom of the character is positioned to the vertical position.



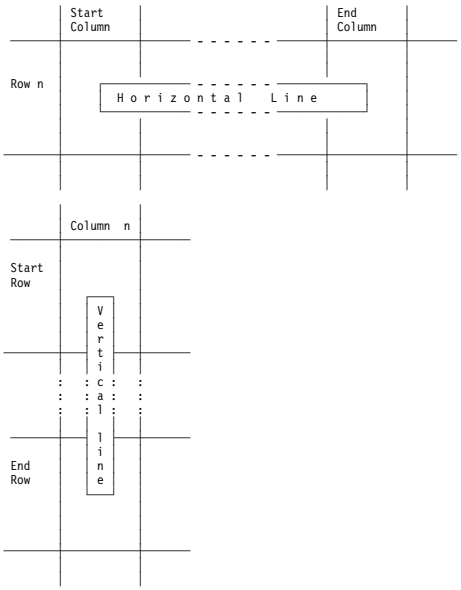
Line Element and Position

Measurement Method is Row/Column

Line Placement is Border The top of a horizontal line is positioned to the top of the row. The left side of a vertical line is positioned to the left of the column.

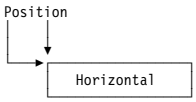


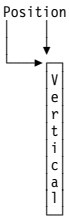
Line Placement is Center The center of a horizontal line or the top of a vertical line is positioned to the center of the column or row. The center of a vertical line or the left edge of a horizontal line is positioned to the center of the column.



Measurement Method is Inch or Centimeter

The top edge of a horizontal line is positioned to the vertical position. The left edge of a vertical line is positioned to the horizontal position.

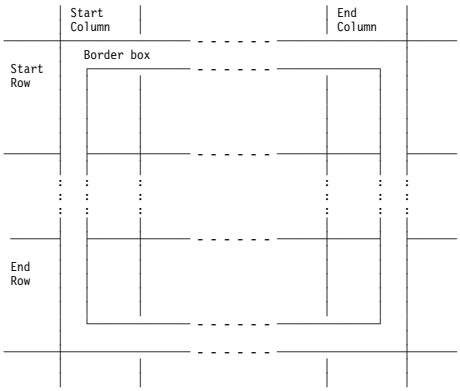




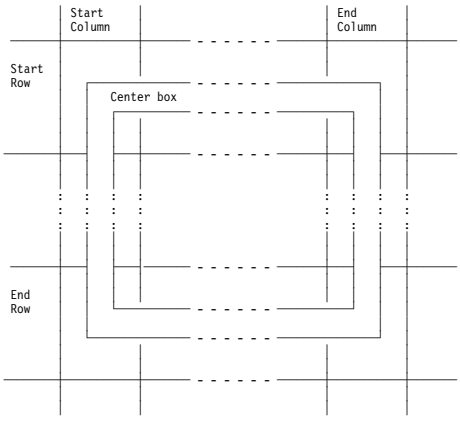
Box Element and Position

Measurement Method is Row/Column

Line Placement is Border The top edge of the top horizontal line is positioned to the top of the row. The bottom edge of the bottom horizontal line is positioned to the bottom of the row. The left edge of the left vertical line is positioned to the left of the column. The right edge of the right vertical line is positioned to the right of the column.

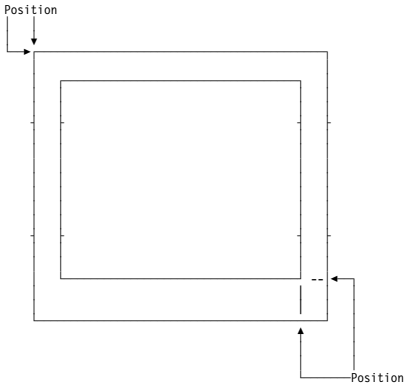


Line Placement is Center: The center of horizontal lines is positioned to the center of the row. The center of vertical lines is positioned to the center of the column.



Measurement Method is Inch or Centimeter

The top of the horizontal lines is positioned to the vertical position. The left of the vertical lines is positioned to the horizontal position.

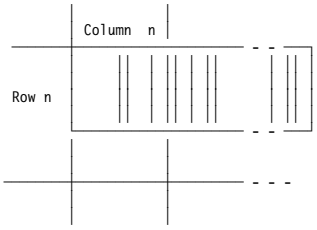


Bar Code Element and Position

Note: Bar code elements have some leading blanks before the bars. Thus the first bar does not start at the specified position.

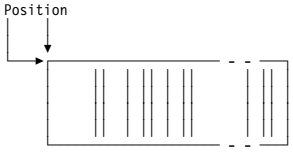
Measurement Method is Row/Column

Top of the row and left edge of the column is the bar code position.



Measurement Method is Inch or Centimeter

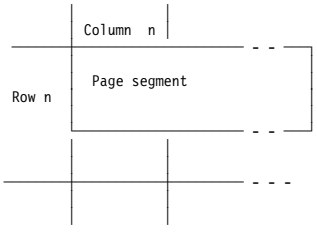
Top left corner of the bar code area is positioned.



Page Segment Element and Position

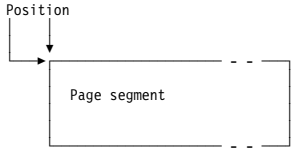
Measurement Method is Row/Column

Top of the row and left edge of the column is the page segment position.



Measurement Method is Inch or Centimeter

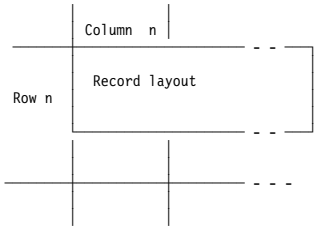
Top left corner of the page segment is positioned.



Record Layout Element and Position

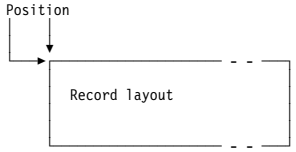
Measurement Method is Row/Column

Top of the row and left edge of the column is the record layout position.



Measurement Method is Inch or Centimeter

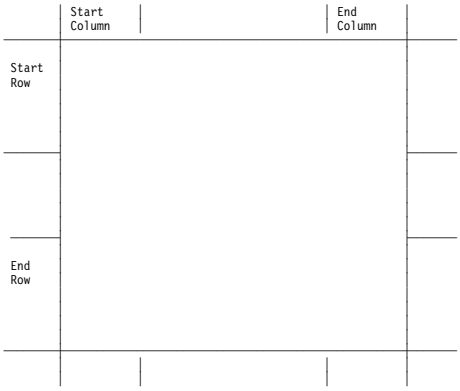
Top left corner of the record layout is positioned.



Graphics Element and Position

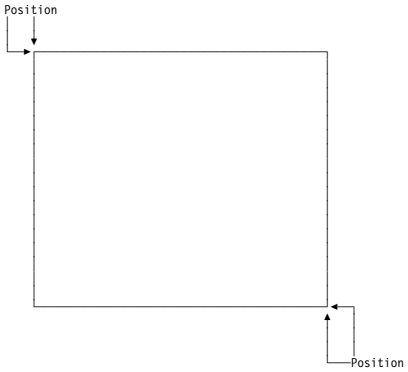
Measurement Method is Row/Column

The top side of the graphics block is positioned to the top of the row. The bottom side of the graphics block is positioned to the bottom of the row. The left of the graphics block is positioned to the left of the column. The right of the graphics block is positioned to the right of the column.



Measurement Method is Inch or Centimeter

The horizontal side of the graphics block is positioned to the vertical position. The vertical side of the graphics block is positioned to the horizontal position.



Appendix A. Printer Characteristics

Some printers may not be able to print your output as designed. This appendix describes some of the printer characteristics, such as pel density and Single Byte (SBCS) and Double Byte (DBCS) Character Set support, that may affect the printout. For more information about printer characteristics, refer to the *Advanced Function Printing: Printer Information*, or appropriate documentation for your printer.

Supported Printers

At the time of publication of this manual, the following IBM Advanced Function Printers are supported:

- 3112 (SBCS Only), 300-pel
- 3116 (SBCS Only), 300-pel
- 3130 240-pel, DBCS supported

  Note: For 3130 300-pel, specify printer type 3.
- 3160 (SBCS Only), 240-pel
- 3812 (SBCS Only), 240-pel
- 3816 (SBCS Only), 240-pel
- 3820 240-pel, DBCS supported
- 3825 240-pel, DBCS supported
- 3813 240-pel, DBCS supported
- 3829 240-pel, DBCS supported
- 3835 240-pel, DBCS supported
- 3900 240-pel, DBCS supported
- 3912 (SBCS Only), 300-pel
- 3916 (SBCS Only), 300-pel
- 3930 240-pel, DBCS supported
- 3935 (SBCS Only), 300-pel
- 4028 (SBCS Only), 300-pel
- 4224 (SBCS Only), 144-pel
- 4230 (SBCS Only), 144-pel
- 4234 (SBCS Only), 144-pel
- 4247 (SBCS Only), 144-pel
- 4312 (SBCS Only), 300-pel
- 4317 (SBCS Only), 300-pel
- 6400 (SBCS Only), 144-pel
- 6404 (SBCS Only), 144-pel
- 6408 (SBCS Only), 144-pel

If the four-digit printer type isn't recognized by the AFP Utilities for AS/400, entering another printer type recognized by the AFP Utilities for AS/400 will produce the correct data stream.

The interface to specify the printer type has been changed so that as new printers become available which have different characteristics than any others, the function to support the printer type and list of supported printers can be added between releases with Programming Temporary Fixes (PTFs).

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For a definitive specification of the hardware and software requirements, you should consult the *Advanced Function Printing Utilities for OS/400 Licensed Program Specifications*.

Printable Area

Different printers have different printable areas. The printable area also depends on the paper size and the degree of rotation specified for the page layout or overlay used.

You should specify the *Offset* prompt on the Define Overlay Specifications display or the Define PFD Specifications display so that your printout fits within the printable area of your printer.

For information about the printable areas refer to the *Advanced Function Printing: Printer Information*, (G544-3290), or appropriate documentation for your printer.

Printer Storage Limitations

The data needed to print your printout is loaded into printer storage. With an unusually complex printout, the storage requirements may approach or exceed the storage limitations of the printer. If the storage limitations are exceeded, the printout will not be printed. If the storage used is close to the limitations, printing may be slowed somewhat.

In such cases, you should consider simplifying your printout in one or more of the following ways:

- Reduce the number of elements
- Reduce the number of fonts
- Reduce the number of page segments
- Reduce the number of graphics
- Avoid use of shading
- Avoid use of dotted and dashed lines or boxes
- Avoid use of enlarged or reduced characters
- Use smaller fonts

You should also consider purchasing more raster image storage for your printer if this is appropriate.

Limitations for Each Printer

The list of limitations by printer will not be shown for all IBM printers. Rather, the interface for printer type will continue to be improved so that AFP Utilities for AS/400 will not accept input parameters which are not compatible with the printer type. For the individual features and limitations of given printer types, see the appropriate documentation for the printer.

3812 Printer

- Double Byte Character Sets are not supported.
- Enlarged or reduced characters are not printed if its font is font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set).
- Vertical format is not supported if the font is type 1 (specified with a font and a character identifier).
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- Bar code types Code 128 and POSTNET are not supported.
- You can print graphic elements only with *CONTENT print fidelity, because graphics (GDF) have color orders that are not supported.

3816 and 3930 Printers

- Double Byte Character Sets are not supported.
- Enlarged or reduced characters are not printed if its font is font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set).
- Vertical format is not supported if the font is type 1 (specified with a font and a character identifier).
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- You can print graphic elements only with *CONTENT print fidelity, because graphics (GDF) have color orders that are not supported.

3820 Printer

- Enlarged or reduced characters are not supported.
- Font type 1 (specified with a font and a character identifier) is not supported.

  You can specify fonts of font type 1. Printing occurs because the system substitutes the fonts with the font of font type 3 if a corresponding font exists.
- Bar code object content architecture (BCOCA*) is not supported. (AFP Utilities for AS/400 generates appropriate data instead of BCOCA for printer type 4, 5, or 6). You can print bar codes on this printer.
- Graphics is not supported.
- IOCA image is not supported.
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- If the font type 2 (specified with a coded font) is specified, the overstrike function and the underline function are not supported.

3825 Printer

- Enlarged or reduced characters are not supported.
- Font type 1 (specified with a font and a character identifier) is not supported.

  You can specify fonts of font type 1. Printing occurs because the system substitutes the fonts with the font of font type 3 if a corresponding font exists.
- Bar code object content architecture (BCOCA) is not supported. (AFP Utilities for AS/400 generates appropriate data instead of BCOCA for printer type 4, 5, or 6). You can print bar codes on this printer.
- Graphics is not supported if the Advanced Function Image and Graphics Feature is not installed.
- You can print graphic elements only with *CONTENT print fidelity, because graphics (GDF) have color orders that are not supported.
- IOCA image is not supported if the Advanced Function Image and Graphics Feature is not installed.

- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- If the font type 2 (specified with a coded font) is specified, the overstrike function and the underline function are not supported.

3827 and 3829 Printers

- Enlarged or reduced characters are not supported.
- Font type 1 (specified with a font and character identifier) is not supported.

  You can specify fonts of font type 1. Printing occurs because the system substitutes the fonts with the font of font type 3 if a corresponding font exists.
- Bar code object content architecture (BCOCA) is not supported. (AFP Utilities for AS/400 generates appropriate data instead of BCOCA for printer type 4, 5, or 6). You can print bar codes on this printer.
- Graphics is not supported.
- IOCA image is not supported.
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- If the font type 2 (specified with a coded font) is specified, the overstrike function and the underline function are not supported.

3831 Printer

- Enlarged or reduced characters are not supported.
- Font type 1 (specified with a font and character identifier) is not supported.

  You can specify fonts of font type 1. Printing occurs because the system substitutes the fonts with the font of font type 3 if a corresponding font exists.
- Bar code object content architecture (BCOCA) is not supported. (AFP Utilities for AS/400 generates appropriate data instead of BCOCA for printer type 4, 5, or 6). You can print bar codes on this printer.
- Graphics is not supported.
- IOCA image is not supported.
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- If the font type 2 (specified with a coded font) is specified, the overstrike function and the underline function are not supported.

3835 Printer

- Enlarged or reduced characters are not supported.
- Font type 1 (specified with a font and character identifier) is not supported.

  You can specify fonts of font type 1. Printing occurs because the system substitutes the fonts with the font of font type 3 if a corresponding font exists.
- Bar code object content architecture (BCOCA) is not supported. (AFP Utilities for AS/400 generates appropriate data instead of BCOCA for printer type 4, 5, or 6). You can print bar codes on this printer.
- Graphics is not supported if the Advanced Function Image and Graphics Feature is not installed.
- You can print graphics with *CONTENT print fidelity, because graphics (GDF) has color orders which are not supported.
- IOCA image is not supported if the Advanced Function Image feature is not installed.
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- If the font type 2 (specified with a coded font) is specified, the overstrike function and the underline function are not supported.

3900 Printer

- Enlarged or reduced characters are not supported.
- Font type 1 (specified with a font and character identifier) is not supported.

  You can specify fonts of font type 1. Printing occurs because the system substitutes the fonts with the font of font type 3 if a corresponding font exists.
- Bar code object content architecture (BCOCA) is not supported. (AFP Utilities for AS/400 generates appropriate data instead of BCOCA for printer type 4, 5, or 6). You can print bar codes on this printer.
- Graphics is not supported if the Advanced Function Image and Graphics Feature is not installed.
- You can print graphics with *CONTENT print fidelity, because graphics (GDF) has color orders which are not supported.
- IOCA image is not supported if the Advanced Function Image feature is not installed.
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- If the font type 2 (specified with a coded font) is specified, the overstrike function and the underline function are not supported.

3916 and 4028 Printers

- Double Byte Character Sets are not supported.
- Enlarged or reduced characters are not printed if its font is font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set).
- Vertical format is not supported if its font is type 1 (specified with a font and a character identifier).
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- You can print graphics with *CONTENT print fidelity, because graphics (GDF) has color orders which are not supported.

4224 Printer

- Double Byte Character Sets are not supported.
- IOCA image is not supported.
- Vertical format is not supported.
- HRI 'Above' option for a bar code is not supported.
- When the sum of the degree of rotation specified on either the Define Overlay Specifications display or the Define PFD Specifications display, and the degree of rotation specified on the Define Text Detail display, the Define Box Detail display, or the Define Graphics Detail display is not 0 or 360, the degree of rotation is not supported.
- When the sum of the degree of rotation specified on either the Define Overlay Specifications display or the Define PFD Specifications display, and the degree of rotation specified on the Define Bar Code Detail display is not 180, 270, 540, nor 630, the degree of rotation is not supported.
- A bar code type of POSTNET is not supported.
- Not all types of 4224 printers support color.
- If you specify a value other than *DEFAULT and 8=Black for the *Color* prompt, the printout is printed in black or error occurs if your printer supports only black.
- If you specify too small a value for the *Character size* prompt on the Define Text Detail display or the Change Text Detail display, the text is not printed correctly. The printed characters overlap each other or are only partially printed.
- If your printer does not support colors, you can print graphics with *CONTENT print fidelity.

- If the size of the graphics is small, the text in the graphics is not printed correctly. The printed characters overlap each other or are only partially printed.

3935 Printer

- Double Byte Character Sets are not supported.
- Enlarged or reduced characters are not supported.
- Vertical format is not supported if its font is type 1 (specified with a font and a character identifier).
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- You can print graphic elements only with *CONTENT print fidelity, because graphics (GDF) have color orders that are not supported.
- For this printer type CODE128 bar codes must be specified with check digits.

4234 Printer

- Double Byte Character Sets are not supported.
- Font type 2 (specified with a coded font) and font type 3 (specified with a code page and a font character set) are not supported.

  You may specify fonts of font type 2 and 3. Printing may occur because the system substitutes the fonts with fonts of font type 1 if the print fidelity is *CONTENT and a corresponding font exists.
- IOCA image is not supported.
- Vertical format is not supported.
- When the sum of the degree of rotation specified on either the Define Overlay Specifications display or the Define PFD Specifications display, and the degree of rotation specified on the Define Text Detail display, the Define Box Detail display, or the Define Graphics Detail display is not 0 or 360, the degree of rotation is not supported.
- When the sum of the degree of rotation specified on either the Define Overlay Specifications display or the Define PFD Specifications display, and the degree of rotation specified on the Define Bar Code Detail display is not 180, 270, 540, nor 630, the degree of rotation is not supported.
- A bar code type POSTNET is not supported.
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- If you specify a value other than *DEFAULT and 8=Black for the *Color* prompt, the printout is printed in black or error occurs.
- You can print graphic elements only with *CONTENT print fidelity, because graphics (GDF) have color orders that are not supported.
- If you specify too small a value for the *Character size* prompt on the Define Text Detail display or the Change Text Detail display, the text is not printed correctly. The printed characters overlap each other or are only partially printed.
- If the size of the graphics is small, the text in the graphics is not printed correctly. The printed characters overlap each other or are only partially printed.

4230 Printer

- Double Byte Character Sets are not supported.
- Font type 2 (specified with a coded font) and font type 3 (specified with a code page and a font character set) are not supported.

  You may specify fonts of font type 2 and 3. Printing occurs because the system substitutes the fonts with fonts of font type 1 if a corresponding font exists.
- IOCA image is not supported.
- Vertical format is not supported.
- HRI 'Above' option for bar code is not supported.
- When the sum of the degree of rotation specified on either the Define Overlay Specifications display or the Define PFD Specifications display, and the degree of rotation specified on the Define Text Detail display, the Define Box Detail display, or the Define Graphics Detail display is not 0 or 360, the degree of rotation is not supported.
- When the sum of the degree of rotation specified on either the Define Overlay Specifications display or the Define PFD Specifications display, and the degree of rotation specified on the Define Bar Code Detail display is not 180, 270, 540, or 630, the degree of rotation is not supported.
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- If you specify a value other than *DEFAULT and 8=Black for the *Color* prompt, the printout is printed in black or an error occurs.
- You can print graphics with *CONTENT print fidelity, because graphics (GDF) has the color orders which are not supported.
- If you specify too small a value for the *Character size* prompt on the Define Text Detail display or the Change Text Detail display, the text is not printed correctly. The printed characters overlap each other or are only partially printed.
- If the size of the graphics is small, the text in the graphics is not printed correctly. The printed characters overlap each other or are only partially printed.

Appendix B. Rotation, Format, and Shading Pattern in Box

Format, Text Placement and Rotation

You can specify the rotation of an overlay or a page, and the text position in a box element.

On the Define Box Detail display, you can specify the format, the text placement and the rotation in the *Format* prompt, in the *Text placement* prompt and in the *Degree of rotation* prompt respectively.

Format

You can specify the following values in the *Format* prompt.

1 Horizontal
2 Vertical
3 Vertical, right to left

Note: The value 3 can be specified only when Y is specified for the user-specified DBCS data prompt on the Create Source Overlay File display or the Create PFD Definition File display and the OS/400 system is double byte capable.

Text Placement

You can specify the following values in the *Horizontal* prompt and the *Vertical* prompt when the format is horizontal.

- *Horizontal* prompt

  1 Left
  2 Center
  3 Right
  4 Balance

- *Vertical* prompt

  1 Top
  2 Center
  3 Bottom

You can specify the following values in the *Horizontal* prompt and the *Vertical* prompt when the format is vertical or vertical right to left.

- *Horizontal* prompt

  1 Left
  2 Center
  3 Right

- *Vertical* prompt

  1 Top
  2 Center
  3 Bottom
  4 Balance

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Degree of Rotation

You can specify 0, 90, 180, and 270 to rotate the text clockwise.

The following print examples show various rotation and formats of the text.

	Format	Degree of Rotation (Box)	Degree of Rotation (Overlay or Page)
Print example - 1	1	0	0
Print example - 2	1	90	0
Print example - 3	1	180	0
Print example - 4	1	270	0
Print example - 5	1	90	90
Print example - 6	2	0	0
Print example - 7	2	90	0
Print example - 8	2	180	0
Print example - 9	2	270	0
Print example - 10	2	90	90
Print example - 11	3	0	0
Print example - 12	3	90	0
Print example - 13	3	180	0
Print example - 14	3	270	0
Print example - 15	3	90	90

Choice on the Define Box Detail display:

```
Format             : 1=Horizontal
Degree of rotation : 0
```

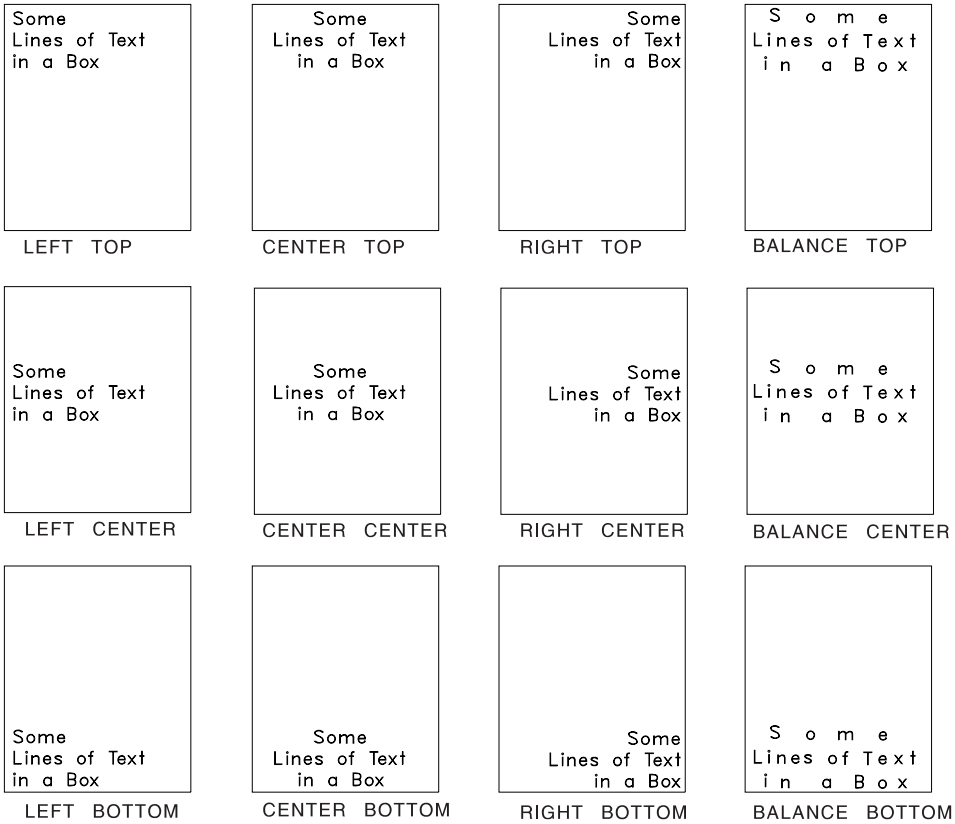


Figure 44. Print Example - 1

Choice on the Define Box Detail display:

```
Format              : 1=Horizontal
Degree of rotation : 90
```

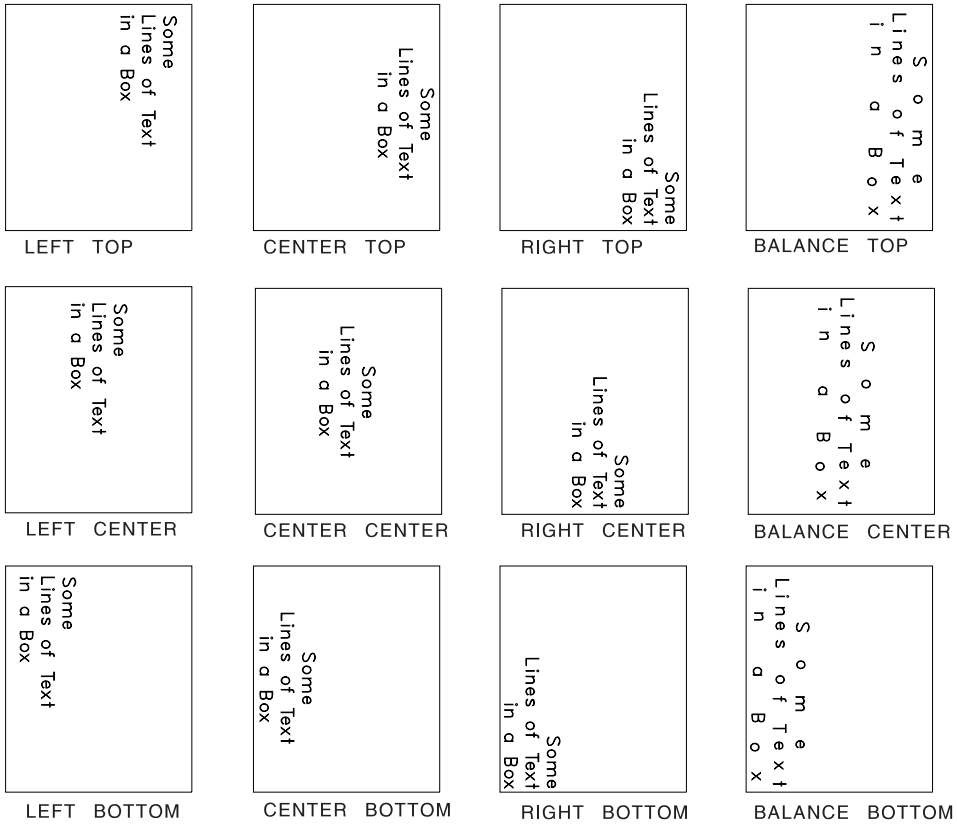


Figure 45. Print Example - 2

Choice on the Define Box Detail display:

```
Format             : 1=Horizontal
Degree of rotation : 180
```

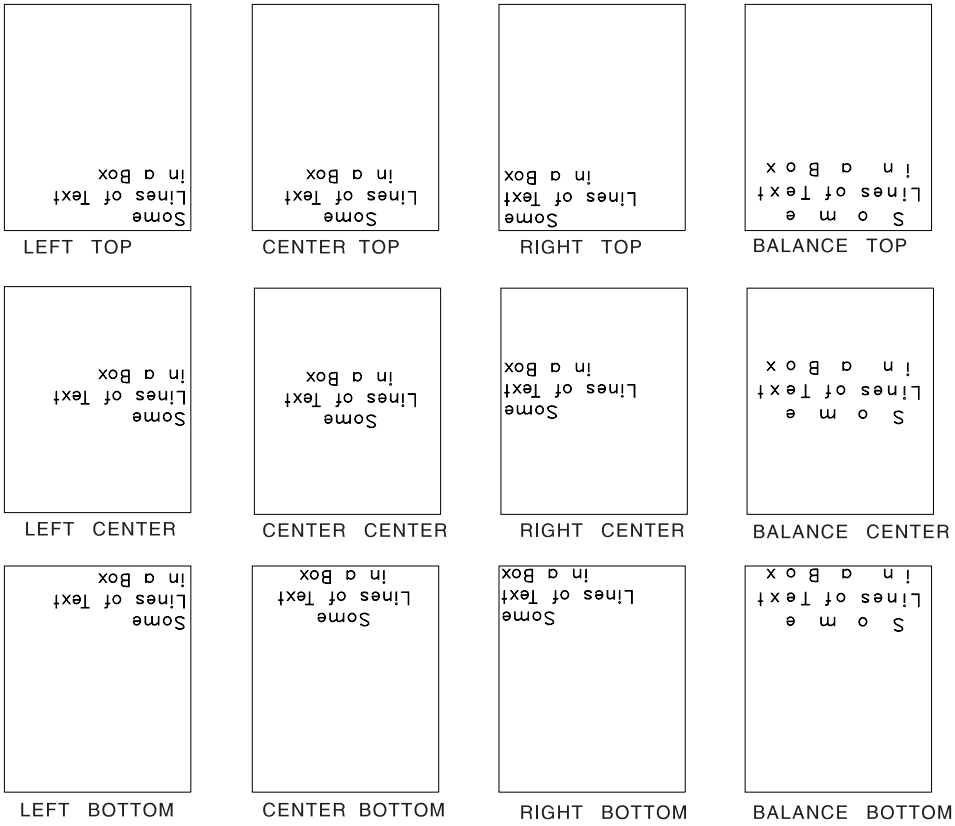


Figure 46. Print Example - 3

Choice on the Define Box Detail display:

```
Format              : 1=Horizontal
Degree of rotation : 270
```

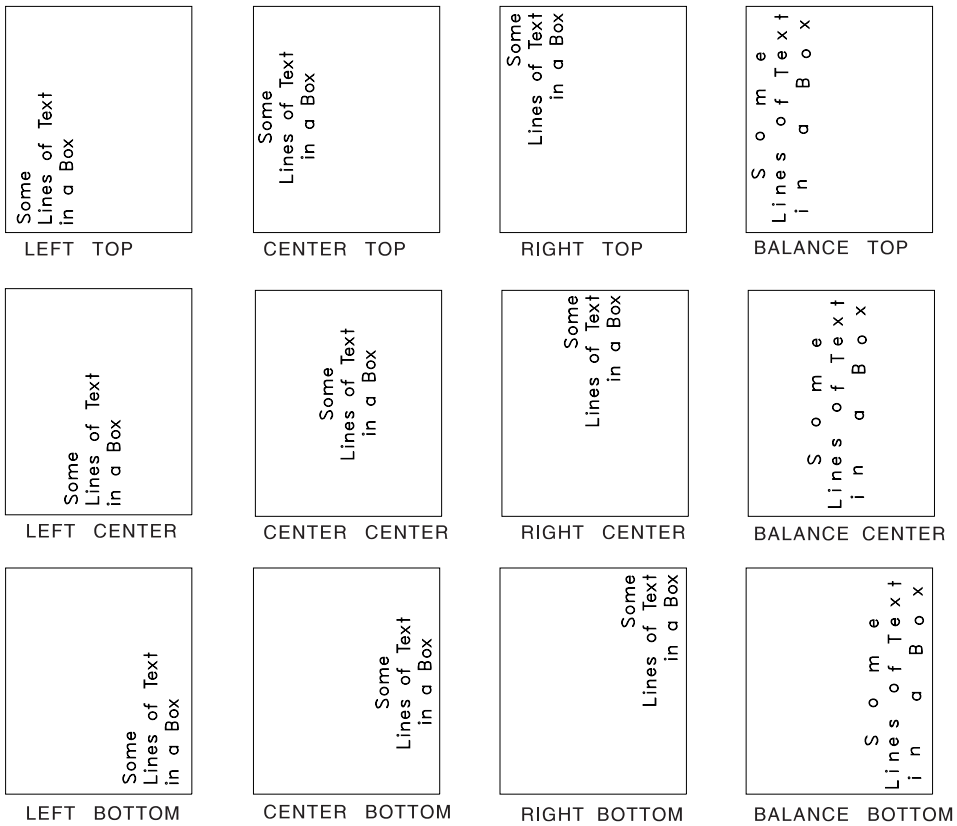


Figure 47. Print Example - 4

Choice on the Define Box Detail display:

```
 Format             : 1=Horizontal
 Degree of rotation : 90
```

Choice on the Define Overlay Specifications display or
the Define PFD Specifications Display:

```
 Degree of rotation : 90
```

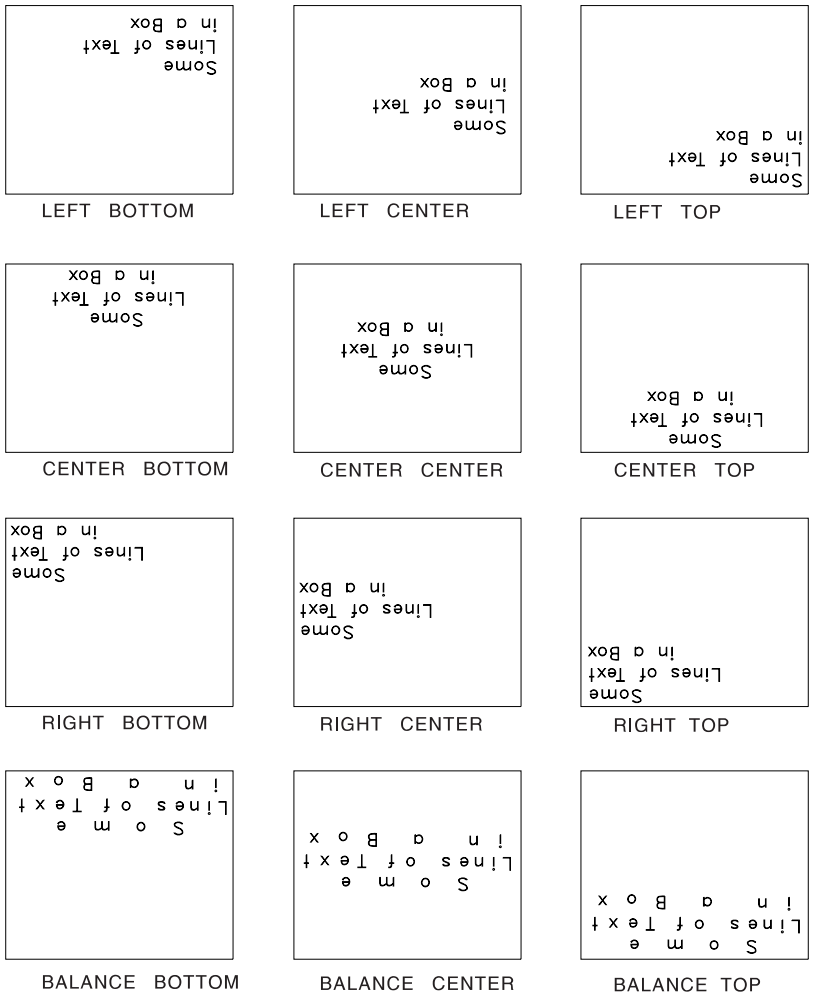


Figure 48. Print Example - 5

Choice on the Define Box Detail display:

```
Format              : 2=Vertical
Degree of rotation : 0
```

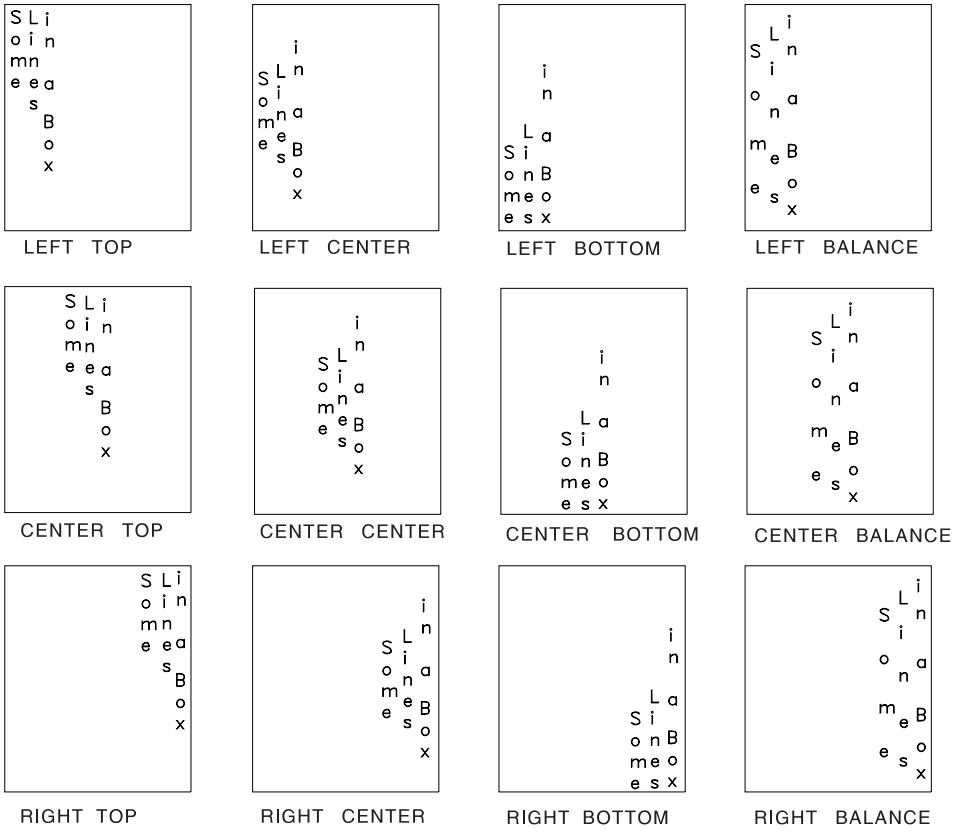


Figure 49. Print Example - 6

Choice on the Define Box Detail display:

```
Format             : 2=Vertical
Degree of rotation : 90
```

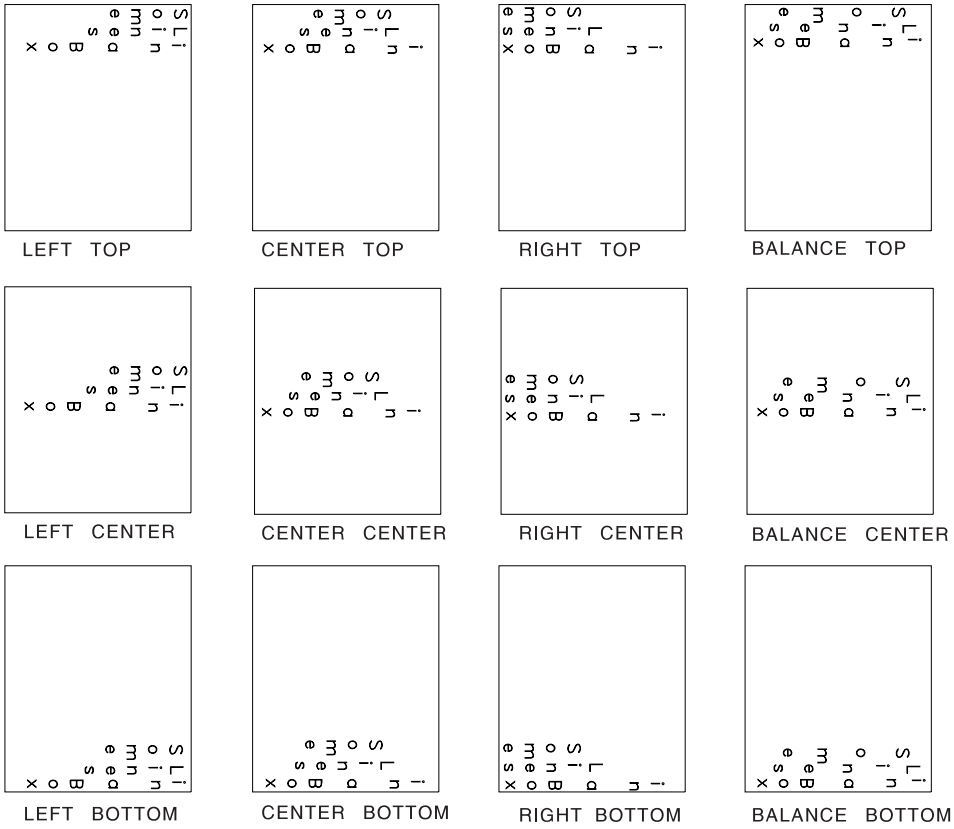


Figure 50. Print Example - 7

Choice on the Define Box Detail display:

```
Format              : 2=Vertical
Degree of rotation : 180
```

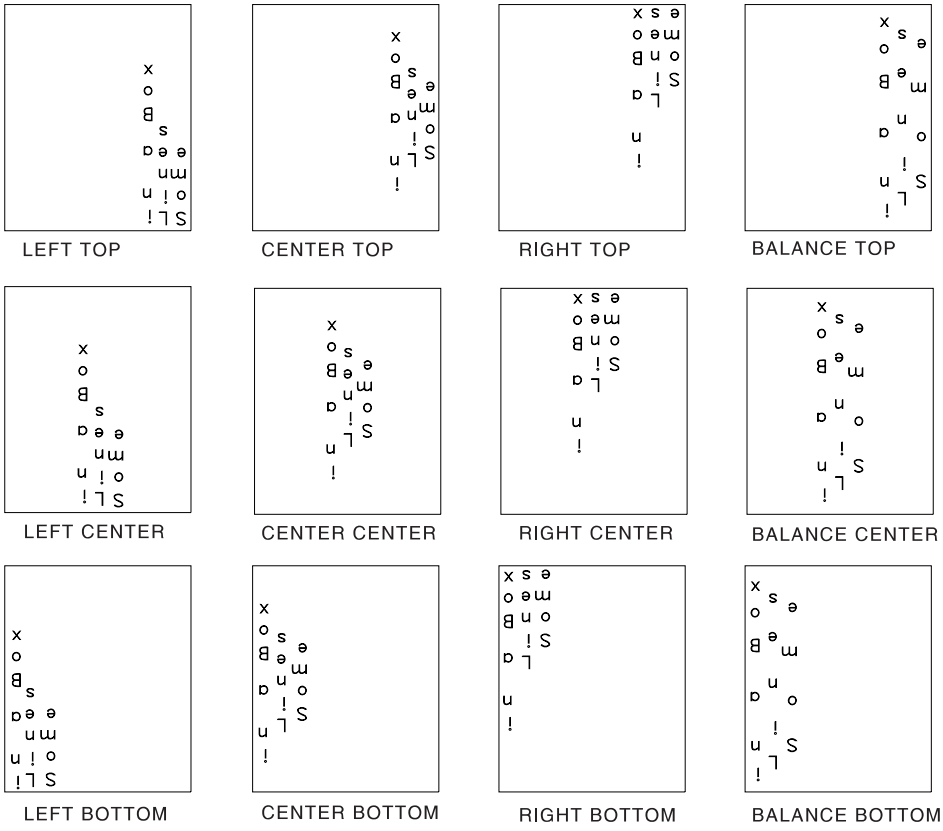


Figure 51. Print Example - 8

Choice on the Define Box Detail display:

```
Format              : 2=Vertical
Degree of rotation : 270
```

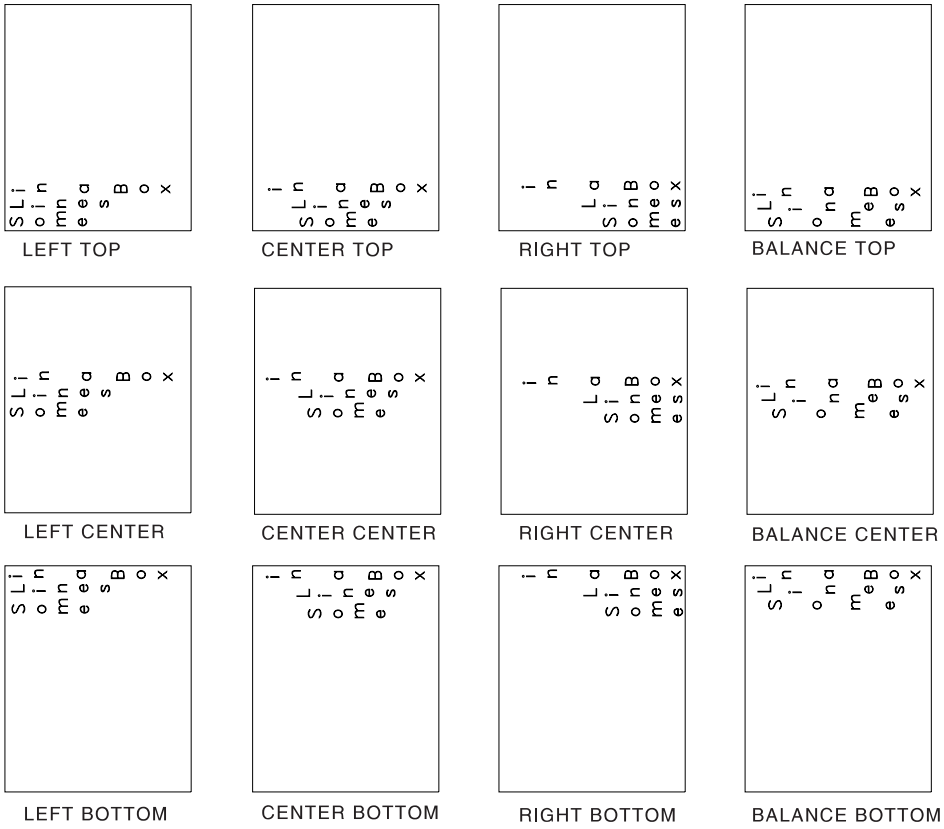


Figure 52. Print Example - 9

Choice on the Define Box Detail display:

```
 Format              : 2=Vertical
 Degree of rotation : 90
```

Choice on the Define Overlay Specifications display or
the Define PFD Specifications Display:

```
 Degree of rotation : 90
```

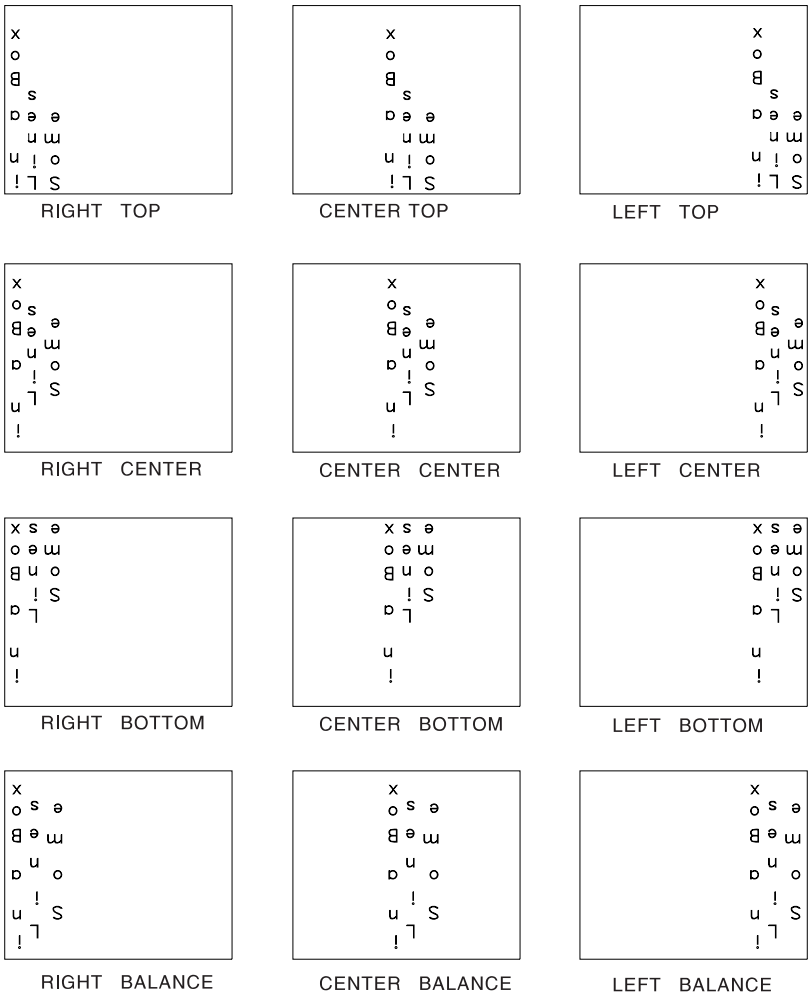


Figure 53. Print Example - 10

Choice on the Define Box Detail display:

```
Format             : 3=Vertical, right to left
Degree of rotation : 0
```

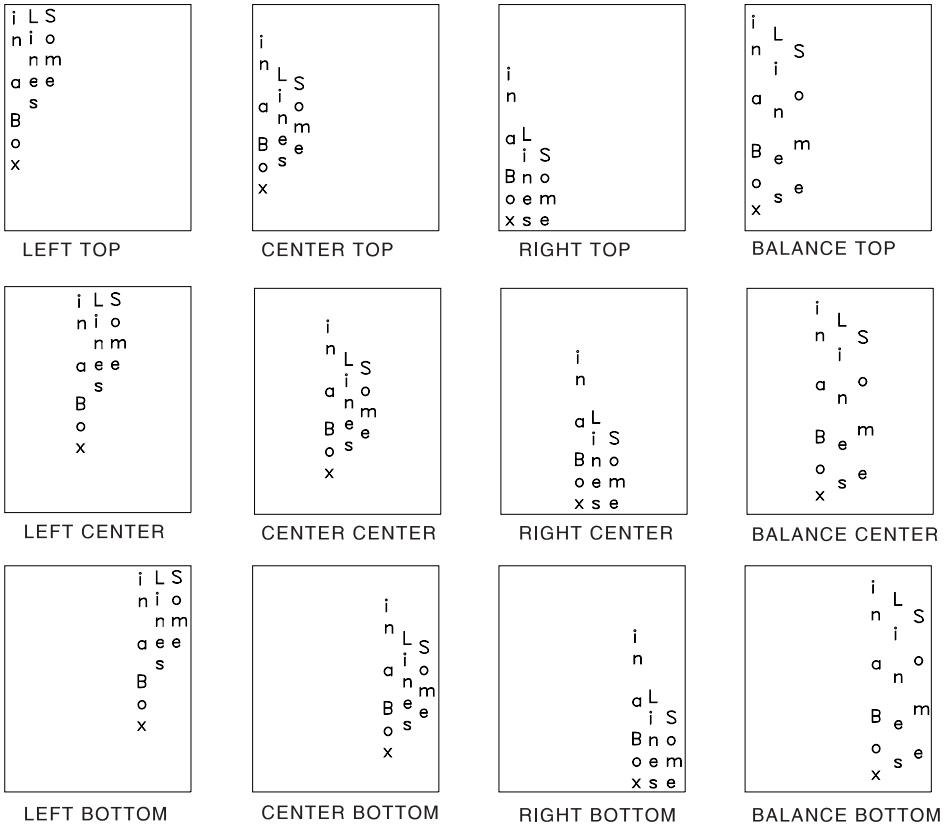


Figure 54. Print Example - 11

Choice on the Define Box Detail display:

```
Format              : 3=Vertical, right to left
Degree of rotation : 90
```

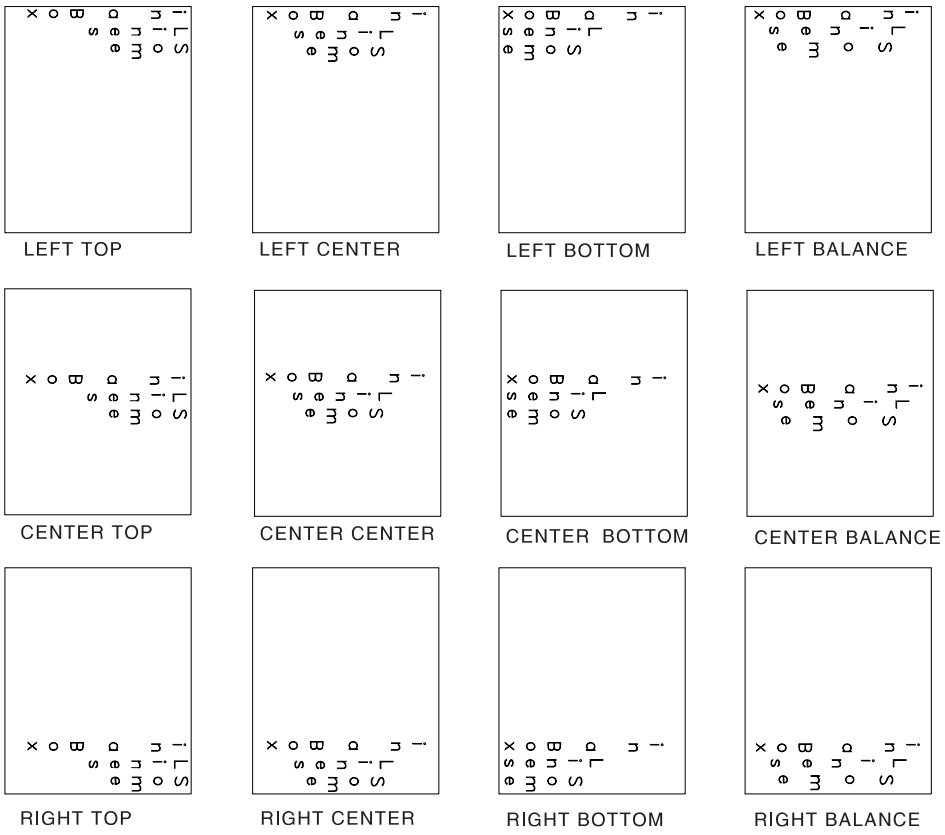


Figure 55. Print Example - 12

Choice on the Define Box Detail display:

```
Format             : 3=Vertical, right to left
Degree of rotation : 180
```

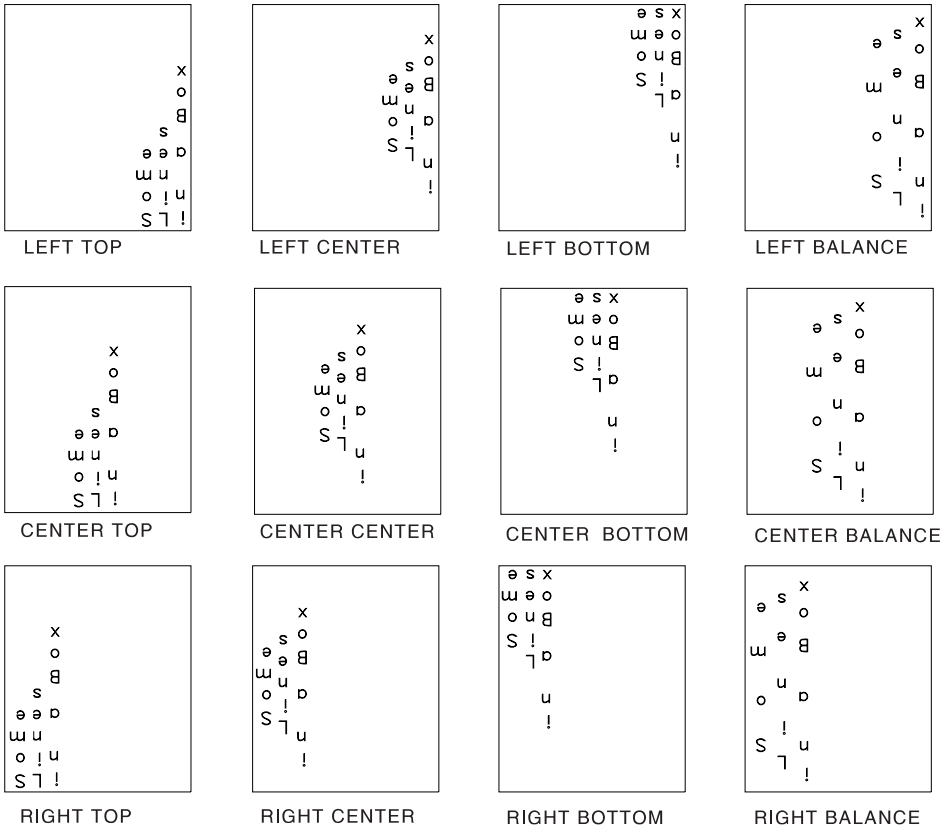


Figure 56. Print Example - 13

Choice on the Define Box Detail display:

```
Format              : 3=Vertical, right to left
Degree of rotation : 270
```

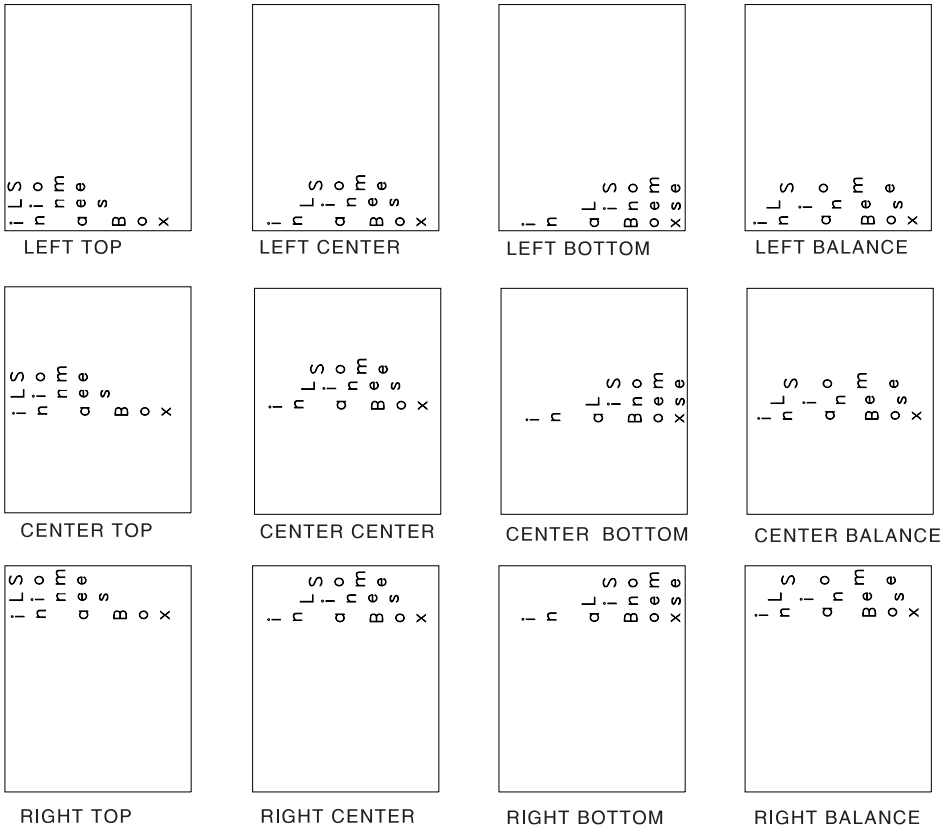


Figure 57. Print Example - 14

```
Choice on the Define Box Detail display:

 Format             : 3=Vertical, right to left
 Degree of rotation : 90

Choice on the Define Overlay Specifications display or
the Define PFD Specifications Display:

 Degree of rotation : 90
```

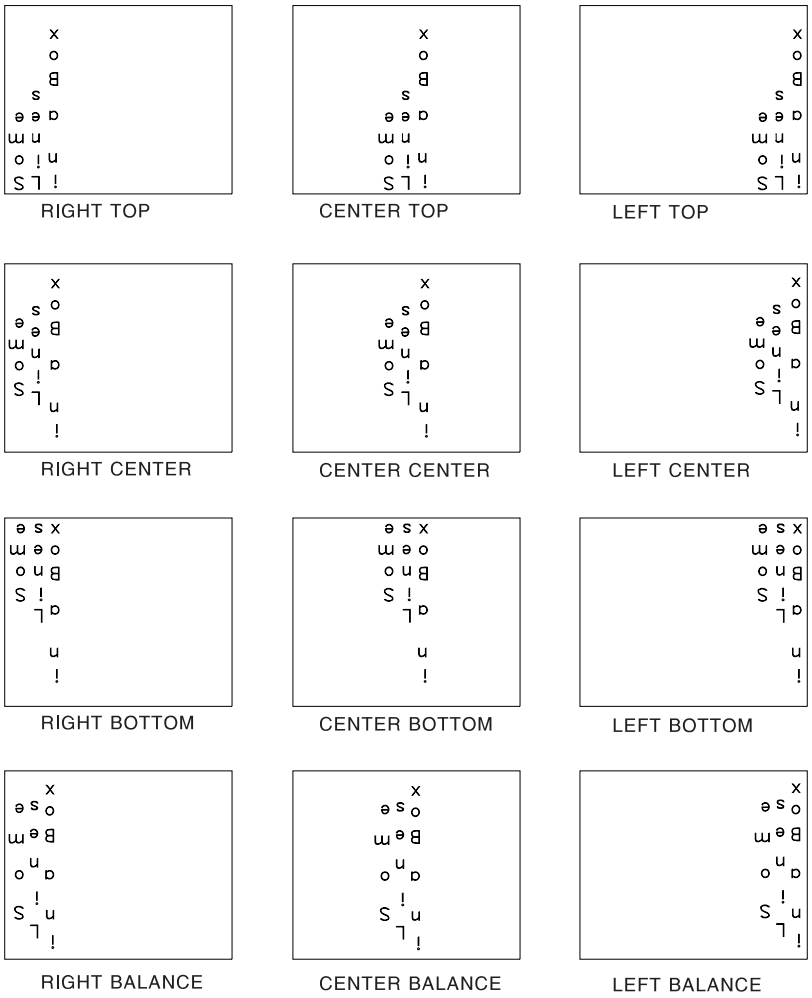


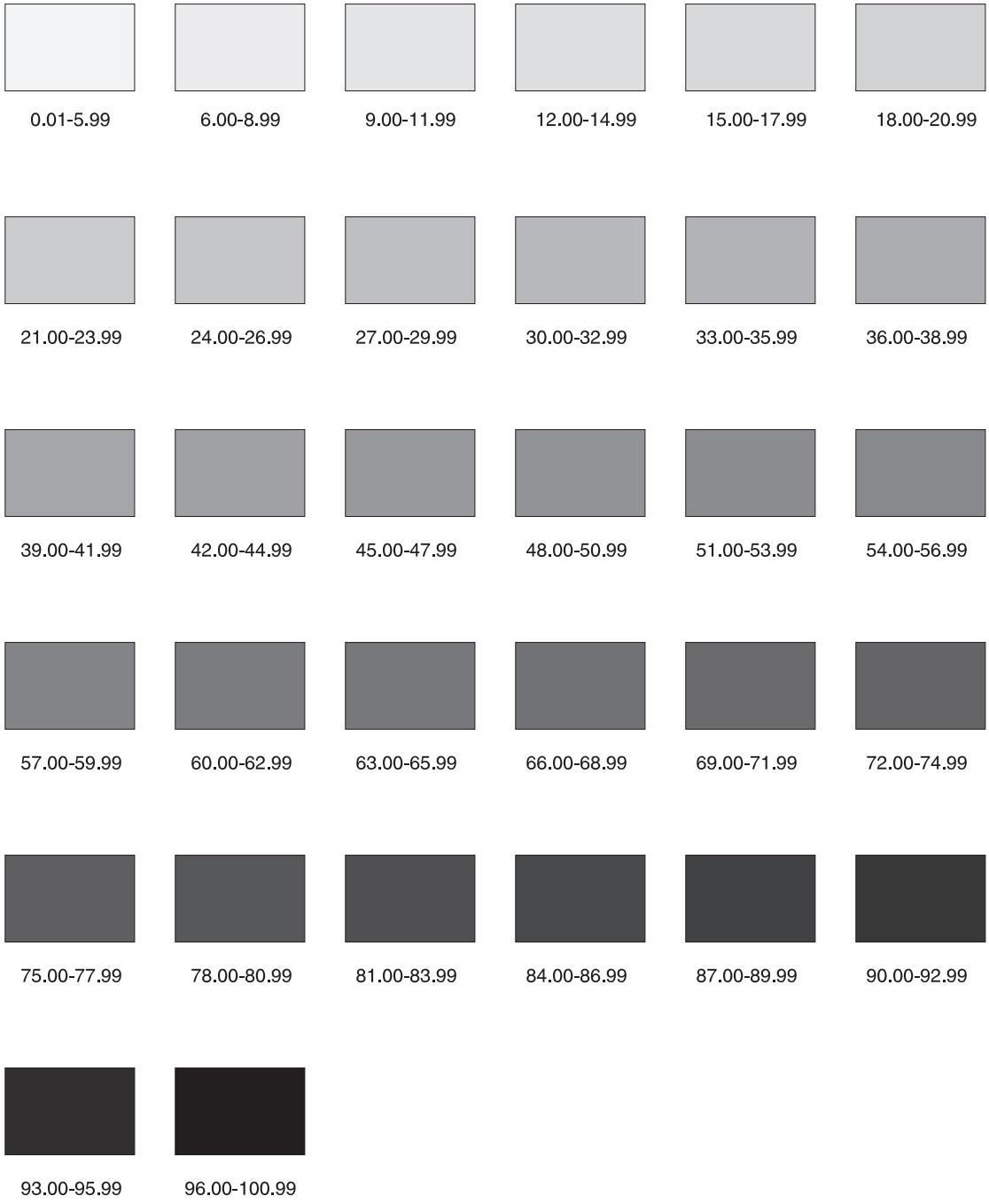
Figure 58. Print Example - 15

Shading Pattern in Box

You can specify the shading in a box element in the *Shading pattern* prompt and the *Shading type* prompt on the Define Box Detail display.

When standard shading is selected, the degree of shading increases with the percentage the same way it does for screen shading. The difference between the two is that screen shading produces a screen-like pattern and standard shading produces a dot matrix not intended to be a pattern.

Following is an example of shading.



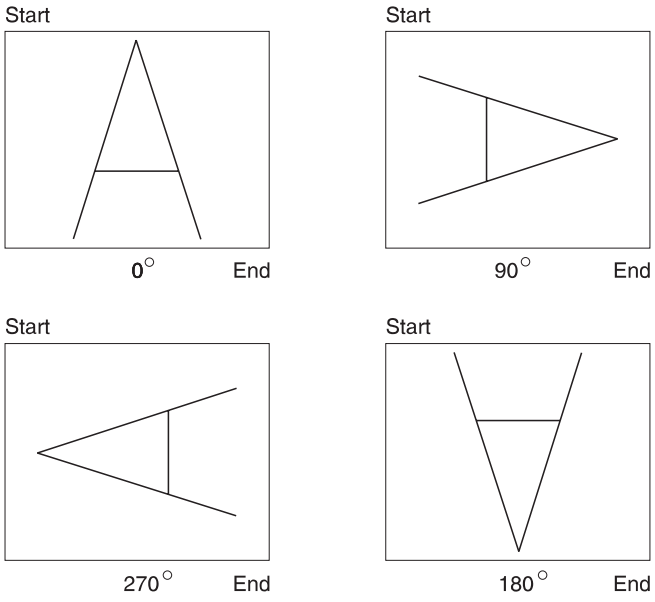
When you specify the following choice for the *Shading type* prompt, the percentage ranges as shown are designated:

Shade type	**Value (%)**
***LIGHT**	24.00 - 26.99
***MEDIUM**	48.00 - 50.99
***DARK**	72.00 - 74.99

Appendix C. Rotation of Graphics

You can specify the rotation of a graphics in a graphics element.

You can specify the rotation of a graphic in a graphic element.



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Appendix D. Using GDFs in AFP Utilities

IBM Advanced Function Printing Utilities for AS/400 cannot create GDF in itself.

Graphics data format (GDF) is a means of storing pictures. GDDM uses it internally, and also makes it available to application programs. It consists of a set of orders with similar meanings to the GDDM graphics call statements. In many cases there is a one-for-one mapping between GDF orders and GDDM call statements.

You can create GDF easily by using AS/400 Business Graphics Utility (BGU), and also by application programs. You can also create GDF on System/390.

To use a System/390 GDF file, you must first convert the GDF file for use on the AS/400 system. To convert the GDF file, use the GDF Bridge Utility of the Graphical Display and Query Facility (QGDF) Licensed Program. You can do conversions in either VM or in MVS/TSO.

If the System/390 supports VM, type the following to start the GDF Bridge Utility and press Enter:

```
EMGGDFB fn TOGDF |EXPAND|
```

The entries in this procedure are as follows:

fn The filename of a CMS file whose filetype is ADMGDF. This file contains the ADMGDF object.

TOGDF Indicates that the specified file is to be converted to a GDF file.

EXPAND Specifies that vector symbols and arcs be expanded to lines.

If the System/390 supports MVS/TSO, type the following to start the GDF Bridge Utility and press Enter:

```
EMGGDFB indsn outdsn member TOGDF |EXPAND|
```

The entries in this procedure are as follows:

indsn The fully qualified name of the dataset that contains the ADMGDF object.

outdsn The fully qualified name of the dataset that is to contain the GDF object.

member The name of the member in the above datasets that contains the input/output.

TOGDF Specifies that the input member is to be converted into a GDF file and stored in the output member.

EXPAND Specifies that vector symbols and arcs be expanded to lines.

The GDF file created by these procedures can then be migrated to the AS/400 system for use by AS/400 system.

Note: GDFs created by System/390 GDDM releases subsequent to release 1.3 may not be supported by the AS/400 system.

The following table shows the GDF orders generated by S/390, AS/400 system, and the GDF orders supported by AFP Utilities.

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Figure 59 (Page 1 of 2).

Order	GDF generated by S/390 GDDM	GDF generated by AS/400 GDDM	Support by AFP Utilities for AS/400
00-No Operation	-	-	Ignored[2]
01-Comment	Supported	Supported	Supported
02-Process Specific Control	Supported	-	Ignored[2]
03-Push and Set Character Box	Supported	-	Ignored[2]
04-Segment Characteristics	Supported	-	Supported
07-Call segment	Supported	-	Ignored[2]
09-Push and Set Pattern	Supported	-	Ignored[2]
0A-Set Color	Supported	-	Supported[1]
0C-Set Foreground Color Mix	Supported	-	Supported[1]
0D-Set Background Color Mix	Supported	-	Supported[1]
10-Set Text Alignment	Supported	-	Ignored[2]
11-Set Fractional Line Width	Supported	-	Supported
18-Set Line Type	Supported	Supported	Supported[1]
19-Set Line Width	Supported	-	Supported[1]
21-Set Current Position	Supported	-	Supported
22-Set Arc Parameters	Supported	Supported	Supported
23-Push and Set Pick (Tag) Identifier	Supported	-	Ignored[2]
24-Set Model Transform	Supported	-	Ignored[2]
26-Set Extended Color	Supported	Supported	Supported
27-Set Viewing Window	Supported	-	Ignored[2]
28-Set pattern Symbol	Supported	Supported	Supported[1]
29-Set Marker Symbol	Supported	-	Supported[1]
33-Set Character Cell	Supported	Supported	Supported
34-Set Character Angle	Supported	Supported	Supported
35-Set Character Shear	Supported	Supported	Supported
36-Set Character-Box Spacing	Supported	-	Ignored[2]
37-Set Marker Cell	Supported	-	Supported
38-Set Character Set	Supported	Supported	Supported[1]
39-Set Character Precision	Supported	Supported	Supported[1]
3A-Set Character Direction	Supported	Supported	Supported[1]
3E-End Prologue	Supported	-	Supported[1]
3F-Pop Attribute	Supported	-	Ignored[2]
41-Marker Scale	Supported	-	Ignored[2]
43-Set Pick Identifier	Supported	Supported	Supported
4A-Push and Set Color	Supported	-	Ignored[2]
4C-Push and Set Foreground Color Mix	Supported	-	Ignored[2]
4D-Push and Set Background Color Mix	Supported	-	Ignored[2]
50-Push and Set Text Alignment	Supported	-	Ignored[2]
51-Push and Set Fractional Line Width	Supported	-	Ignored[2]
53-Segment Position	Supported	-	Ignored[2]
58-Push and Set Line Type	Supported	-	Ignored[2]
59-Push and Set Line Width	Supported	-	Ignored[2]
60-End Area	Supported	Supported	Supported
61-Push and Set Current Position	Supported	-	Ignored[2]
62-Push and Set Arc Parameters	Supported	-	Ignored[2]
64-Push and Set Model Transform	Supported	-	Ignored[2]
66-Push and Set Extended Color	Supported	-	Ignored[2]
67-Push and Set Viewing Window	Supported	-	Ignored[2]
68-Begin Area	Supported	Supported	Supported[1]
69-Push and Set Marker Type	Supported	-	Ignored[2]
70-Segment Start	Supported	Supported	Supported
71-End Segment	Supported	Supported	Supported[1]

Figure 59 (Page 2 of 2).

Order	GDF generated by S/390 GDDM	GDF generated by AS/400 GDDM	Support by AFP Utilities for AS/400
72-Segment Attribute	Supported	Supported	Ignored[2]
73-Segment Attribute Modify	Supported	-	Ignored[2]
74-Push and Set Character Angle	Supported	-	Ignored[2]
75-Push and Set Character Shear	Supported	-	Ignored[2]
76-Push and Set Character-Box Spacing	Supported	-	Ignored[2]
77-Push and Set Marker Box	Supported	-	Ignored[2]
78-Push and Set Character Set	Supported	-	Ignored[2]
79-Push and Set Character Mode	Supported	-	Ignored[2]
7A-Push and Set Character Direction	Supported	-	Ignored[2]
81-Line at Current Position	Supported	Supported	Supported
82-Marker at Current Position	Supported	-	Supported
83-Character String at Current Position	Supported	Supported	Supported
85-Fillet at Current Position	Supported	-	Supported
86-Arc at Current Position	Supported	Supported	Ignored[2]
87-Full Arc at Current Position	Supported	-	Ignored[2]
91-Begin Image Data at Current Position	Supported	Supported	Ignored[2]
92-Image Data	Supported	Supported	Supported
93-End Image	Supported	Supported	Supported
A1-Relative line at current position	Supported	-	Supported
C1-Line	Supported	Supported	Supported
C2-Marker	Supported	-	Supported
C3-Character String	Supported	-	Supported
C5-Fillet	Supported	-	Supported
C6-Arc	Supported	-	Ignored[2]
C7-Full Arc	Supported	-	Ignored[2]
D1-Begin Image	Supported	-	Ignored[2]
E1-Relative Line	Supported	-	Supported

Note:

1. The order is supported and it is the short format, which has no length field.
2. AFP Utilities for AS/400 finds this order, AFP Utilities for AS/400 skips this order and handles the next order.

Note: When AFP Utilities for AS/400 finds an order which is not on this table, AFP Utilities for AS/400 regards the file as an incorrect GDF file and exits from graphics handling.

Appendix E. How to Do a Task

How to Use This Chapter

This chapter provides a quick reference of tasks. You should have a basic knowledge of how to use the AS/400 and the IBM Advanced Function Printing Utilities for AS/400. You must know the following rules used in the descriptions in this chapter.

- "Enter" mean to type the following data and press the Enter key.
- If it is on a menu, "Enter n" (n is an option number like "Enter 2") means to type an option number on the command line and press the Enter key.
- If it is on a work with display, "Enter n" (n is an option number like "Enter 2") means to type an option number next to the item in the list and press the Enter key.
- Not all details are described. For example, some required parameters are not described because they are shown on the display and explained in the online help information.

Tasks Related to Source Overlays

Note: The following description assumes that you are on a display with the command line.

Task	How to Do the Task
Create a source overlay	1. Enter STRAFPU. 2. Enter 1. 3. Enter 1 and a source overlay name on the top of the list.
Change a source overlay	1. Enter STRAFPU. 2. Enter 1. 3. Enter 2.
Copy a source overlay	1. Enter STRAFPU. 2. Enter 1. 3. Enter 3.
Delete a source overlay	1. Enter STRAFPU. 2. Enter 1. 3. Enter 4.
Print a source overlay	1. Enter STRAFPU. 2. Enter 1. 3. Enter 6.
Rename a source overlay	1. Enter STRAFPU. 2. Enter 1. 3. Enter 7.
Create an overlay object from a source overlay	1. Enter STRAFPU. 2. Enter 1. 3. Enter 9.

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Tasks Related to Source Overlay Files

Note: The following description assumes that you are on a display with the command line.

Task	How to Do the Task
Create a source overlay file	1. Enter STRAFPU. 2. Enter 2. 3. Enter 1, a source overlay file name, and a library name on the top of the list.
Change a source overlay file description text	1. Enter STRAFPU. 2. Enter 2. 3. Enter 2.
Copy a source overlay file	1. Enter STRAFPU. 2. Enter 2. 3. Enter 3.
Delete a source overlay file	1. Enter STRAFPU. 2. Enter 2. 3. Enter 4.
Rename a source overlay file	1. Enter STRAFPU. 2. Enter 2. 3. Enter 7.
Display a source overlay file description	1. Enter STRAFPU. 2. Enter 2. 3. Enter 8.

Tasks Related to PFD Definitions

Note: The following description assumes that you are on a display with the command line.

Task	How to Do the Task
Create a PFD definition	1. Enter STRAFPU. 2. Enter 11. 3. Enter 1 and a PFD definition name on the top of the list.
Change a PFD definition	1. Enter STRAFPU. 2. Enter 11. 3. Enter 2.
Copy a PFD definition	1. Enter STRAFPU. 2. Enter 11. 3. Enter 3.
Delete a PFD definition	1. Enter STRAFPU. 2. Enter 11. 3. Enter 4.
Print a PFD definition	1. Enter STRAFPU. 2. Enter 11. 3. Enter 6.
Rename a PFD definition	1. Enter STRAFPU. 2. Enter 11. 3. Enter 7.
Print a database file with a PFD definition	1. Enter STRAFPU. 2. Enter 11. 3. Enter 9.

Tasks Related to PFD Definition Files

Note: The following description assumes that you are on a display with the command line.

Task	How to Do the Task
Create a PFD definition file	1. Enter STRAFPU. 2. Enter 12. 3. Enter 1, a PFD definition file name, and a library name on the top of the list.
Change a PFD definition file description text	1. Enter STRAFPU. 2. Enter 12. 3. Enter 2.
Copy a PFD definition file	1. Enter STRAFPU. 2. Enter 12. 3. Enter 3.
Delete a PFD definition file	1. Enter STRAFPU. 2. Enter 12. 3. Enter 4.
Rename a PFD definition file	1. Enter STRAFPU. 2. Enter 12. 3. Enter 7.
Display a PFD definition file description	1. Enter STRAFPU. 2. Enter 12. 3. Enter 8.

Tasks Related to Overlay Objects

Note: The following description assumes that you are on a display with the command line.

Task	How to Do the Task
Create an overlay object	1. Enter STRAFPU. 2. Enter 1. 3. Enter 9.
Change an overlay object	Change the source overlay and create the overlay object again.
Copy an overlay object	1. Enter STRAFPU. 2. Enter 22. 3. Enter 3.
Delete an overlay object	1. Enter STRAFPU. 2. Enter 22. 3. Enter 4.
Print an overlay object	1. Enter STRAFPU. 2. Enter 22. 3. Enter 6.
Rename an overlay object	1. Enter STRAFPU. 2. Enter 22. 3. Enter 7.
Display an overlay object text description	1. Enter STRAFPU. 2. Enter 22. 3. Enter 8.
Convert an overlay object to a physical file member	1. Enter STRAFPU. 2. Enter 22. 3. Enter 9.

Task	How to Do the Task
Change an overlay object description text	1. Enter STRAFPU. 2. Enter 22. 3. Enter 13.

Tasks Related to Page Segments

Note: The following description assumes that you are on a display with the command line.

Task	How to Do the Task
Create a page segment	1. Enter STRAFPU. 2. Enter 21.
Change a page segment	Change the image in a PC document and create the page segment again.
Copy a page segment	1. Enter STRAFPU. 2. Enter 23. 3. Enter 3.
Delete a page segment	1. Enter STRAFPU. 2. Enter 23. 3. Enter 4.
Print a page segment	1. Enter STRAFPU. 2. Enter 23. 3. Enter 6.
Rename a page segment	1. Enter STRAFPU. 2. Enter 23. 3. Enter 7.
Display a page segment description	1. Enter STRAFPU. 2. Enter 23. 3. Enter 8.
Convert a page segment object to a physical file member	1. Enter STRAFPU. 2. Enter 23. 3. Enter 9.
Change a page segment description text	1. Enter STRAFPU. 2. Enter 23. 3. Enter 13.

Tasks Related to Screen View of Design Display

Note: The following description assumes that you are on one of the following displays and in the screen view:

The Design Overlay display
The Design Record Layout display
The Design Page Layout display

Defining an Element

Task	How to Do the Task
Define a text element	1. Position the cursor in the image area. 2. Press the F6 key.

Task	How to Do the Task
Define a line element	1. Position the cursor in the image area. 2. Press the F9 key. 3. Position the cursor at another position in the image area. 4. Press the F9 key.
Define a box element	1. Position the cursor in the image area. 2. Press the F10 key. 3. Position the cursor at another position in the image area. 4. Press the F10 key.
Define a bar code element	1. Position the cursor in the image area. 2. Press the F11 key.
Define a graphics element	1. Position the cursor in the image area. 2. Press the F13 key. 3. Press the F6 key. 4. Position the cursor at another corner in the image area. 5. Press the F6 key.
Define a page segment element	1. Position the cursor in the image area. 2. Press the F13 key. 3. Press the F9 key.
Define a record layout element	1. Position the cursor in the image area. 2. Press the F13 key. 3. Press the F11 key.

Handling Existing Elements

Task	How to Do the Task
Change an element	1. Position the cursor to the element mark 2. Press the F14 key.
Copy an element	1. Position the cursor to the element mark 2. Press the F21 key. 3. Position the cursor to a new position. 4. Press the F6 key.
Move an element	1. Position the cursor to the element mark 2. Press the F21 key. 3. Position the cursor to a new position. 4. Press the F9 key.
Remove an element	1. Position the cursor to the element mark 2. Press the F21 key. 3. Press the F10 key.
Copy a block of elements	1. Position the cursor at a corner of the block. 2. Press the F22 key. 3. Position the cursor at the diagonal corner of the block. 4. Press the F22 key. 5. Position the cursor to a new position. 6. Press the F6 key.
Move a block of elements	1. Position the cursor at a corner of the block. 2. Press the F22 key. 3. Position the cursor at the diagonal corner of the block. 4. Press the F22 key. 5. Position the cursor to a new position. 6. Press the F9 key.
Remove a block of elements	1. Position the cursor at a corner of the block. 2. Press the F22 key. 3. Position the cursor at the diagonal corner of the block. 4. Press the F22 key. 5. Press the F10 key.

Changing the View of the Display

Task	How to Do the Task
Hide marks	1. Press the F15 key.
Display marks again	1. Press the F15 key.
Temporarily remove an element from the image area (Hide an element)	1. Position the cursor to the element 2. Press the F16 key.
Display the temporarily removed elements again	1. Press the F5 key.

Tasks Related to List View of Design Display

Note: The following description assumes that you are on one of the following displays and in the list view:

The Design Overlay display
The Design Record Layout display
The Design Page Layout display

Defining an Element

Task	How to Do the Task
Define a text element	1. Press the F6 key.
Define a line element	1. Press the F9 key.
Define a box element	1. Press the F10 key.
Define a bar code element	1. Press the F11 key.
Define a graphics element	1. Press the F13 key. 2. Press the F6 key.
Define a page segment element	1. Press the F13 key. 2. Press the F9 key.
Define a record layout element	1. Press the F13 key. 2. Press the F11 key.

Handling Existing Elements

Task	How to Do the Task
Change an element	1. Position the cursor on the line of the element 2. Press the F14 key.
Copy an element	1. Position the cursor on the line of the element 2. Enter C in the NBR column. 3. Enter a new position.
Move an element	1. Position the cursor on the line of the element 2. Enter M in the NBR column. 3. Enter a new position.
Remove an element	1. Position the cursor on the line of the element 2. Enter R in the NBR column.
Restore an element	1. Position the cursor on the line of the element 2. Enter S in the NBR column.

Tasks Related to Each Element

Text Element

Note: The following description assumes that you are on one of the following displays:

The Define Text Detail display
The Change Text Detail display
The Define Box Detail display
The Change Box Detail display

Task	How to Do the Task
Specify values of a variable field as text	Enclose the field name with & and . like: `&PRODCT.` **Note:** This is allowed on the Record Layout only.
Change the mark to a meaningful name	Specify the name in the *Element* prompt.
Print the text vertically	Specify 2 or 3 in the *Format* prompt.
Rotate the text	Specify 90, 180, or 270 in the *Degree of Rotation* prompt.
Print the text in a color other than black	Specify the color in the *Color* prompt. **Note:** See "Limitations for Each Printer" on page 414.
Draw underline with the text	Specify Y in the *Underline* prompt.
Type a character over the text	Specify the character in the *Overstrike* prompt.
Print the text with a different font	Specify the font number in the *Font* prompt.
Print a DBCS text	Specify the font number in the *DBCS font* prompt.
Print text in different size	Specify the size in the *Character size* prompt.

Note: The following description assumes that you are on one of the following displays:

The Define Box Detail display
The Change Box Detail display

Task	How to Do the Task
Specify multiple lines of text	Enclose each line in two apostrophes like: `'first line' 'second line'`
Align multiple lines of text horizontally	Specify 1, 2, 3, or 4 in the *Horizontal* prompt.
Align multiple lines of text vertically	Specify 1, 2, 3, or 4 in the *Vertical* prompt.
Not to print box. (Print text only)	Specify 0 in the *Line width* prompt.

Line Element

Note: The following description assumes that you are on one of the following displays:

The Define Line Detail display
The Change Line Detail display

Task	How to Do the Task
Change the mark to a meaningful name	Specify the name in the *Element* prompt.
Print a dashed line	Specify 2 in the *Line type* prompt.
Print a dotted line	Specify 3 in the *Line type* prompt.
Print with wider or narrower line	Specify the width in the *Line width* prompt.
Print the line around rows and columns	Specify 2 in the *Line placement* prompt and use Row/Column for the measurement method.
Print the line in the middle of rows or columns	Specify 1 in the *Line placement* prompt and use Row/Column for the measurement method.

Box Element

Note: The following description assumes that you are on one of the following displays:

The Define Box Detail display
The Change Box Detail display

Task	How to Do the Task
Change the mark to a meaningful name	Specify the name in the *Element* prompt.
Print the box with dashed line	Specify 2 in the *Line type* prompt.
Print the box with dotted line	Specify 3 in the *Line type* prompt.
Print the box with wider or narrower line	Specify the width in the *Line width* prompt.
Print the box around rows and columns	Specify 2 in the *Line placement* prompt and use Row/Column for the measurement method.
Print the box in the middle of rows or columns	Specify 1 in the *Line placement* prompt and use Row/Column for the measurement method.
Shade the area inside of the box with patterns	Specify 1 or 2 in the *Pattern* prompt.

Bar Code Element

Note: The following description assumes that you are on one of the following displays:

The Define Bar Code Detail display
The Change Bar Code Detail display

Note: Some bar code types do not allow some of the following operations.

Task	How to Do the Task
Change the mark to a meaningful name	Specify the name in the *Element* prompt.

Task	How to Do the Task
Specify values of a variable field as a bar code	Enclose the field name with & and . like: `&PRODCT.` **Note:** This is allowed on the Record Layout only.
Print the bar code vertically	Specify 90 or 270 in the *Degree of rotation* prompt.
Rotate the bar code	Specify 90, 180, or 270 in the *Degree of Rotation* prompt.
Print the bar code in a color other than black	Specify the color in the *Color* prompt. **Note:** See "Limitations for Each Printer" on page 414.
Print the bar code with a check digit	Specify Y in the *Check digit* prompt.
Print the bar code with text of the bar code data	Specify Y in the *HRI* prompt.
Print asterisks with the text of the bar code data	Specify Y in the *HRI asterisk* prompt.
Print the text of bar code data with different font	Specify the font number in the *HRI font* prompt.
Print bar code in different width	Specify another value in the *Module width* prompt.
Print bar code in different height	Specify another value in the *Element height* prompt.
Print the bar code with different width ratio of bar and space	Specify another value in the *Wide to narrow ratio* prompt.

Graphics Element

Note: The following description assumes that you are on one of the following displays:

The Place Graphics Detail display
The Change Graphics Detail display

Task	How to Do the Task
Change the mark to a meaningful name	Specify the name in the *Element* prompt.
Rotate the graphics	Specify 90, 180, or 270 in the *Degree of Rotation* prompt.
Print the text of graphics data with different font	Specify the font number in the *Font* prompt.
Specify values of a variable field as graphics object name	Enclose the field name with & and . like: `&PRODCT.` **Note:** This is allowed on the Record Layout only.

Page Segment Element

Note: The following description assumes that you are on one of the following displays:

The Place Page Segment Detail display
The Change Page Segment Detail display

Task	How to Do the Task
Change the mark to a meaningful name Specify values of a variable field as page segment name	Specify the name in the *Element* prompt. Enclose the field name with & and . like: `&PRODCT.` **Note:** This is allowed on the Record Layout only.

Record Layout Element

Note: The following description assumes that you are on one of the following displays:

The Place Record Layout Detail display
The Change Record Layout Detail display

Task	How to Do the Task
Change the mark to a meaningful name	Specify the name in the *Element* prompt.
Print the record layout in the page more than once	Specify the repetition number in the *Repetition* prompt.
Change the sequence of repeated records in the page	Specify 1 or 2 in the *Direction* prompt.
Change the distances between record layouts	Specify the distance in the *Distance* prompt.

Tasks Related to Database File Selection

Note: The following description assumes that you are on the Specify Database File display.

1. Type the database file name in the *Database file* prompt, or show the list of the database file names by pressing the F4 key and select one.
2. Type the library name in the *Library* prompt.
3. Type the record format name in the *Record format* prompt, or show the list of the record format names by pressing the F4 key and select one.
4. Press Enter.

Tasks Related to Record Selection

Note: The following description assumes that you are on the Specify Record Selection display.

1. Type the field name in the *Field F4 for list* column, or show the list of the field names by pressing the F4 key and select one.
2. Type one of the following test names in the *Test* column.
   - EQ
   - NE
   - LE
   - GE
   - LT
   - GT
   - RANGE
3. Type the value in the *Value (Field, number, or 'character')* column or show the list of the field names

by pressing the F4 key and select one.

If you specify more than one conditions, type AND or OR in the *AND/OR* column, the field name in the *Field* column, the test name in the *Test* column, and the value in the *Value* column.

4. Press Enter.

Tasks Related to Overlay Specifications and PFD Specifications

Note: The following description assumes that you are on one of the following displays:

The Define Overlay Specifications display
The Define PFD Specifications display

Task	How to Do the Task
Change the printer type	Specify another value in the *Printer type* prompt.
Change the column position width (characters per inch)	Specify another value in the *Characters per inch* prompt.
Change the row position height (lines per inch)	Specify another value in the *Lines per inch* prompt.
Use inches to specify positions	Specify 1 in the *Unit of measure* prompt and use Inch for the measurement method by pressing the F6 key when you define or change an element.
Use centimeters to specify positions	Specify 2 in the *Unit of measure* prompt and use Centimeter for the measurement method by pressing the F6 key when you define or change an element.
Change the size of overlay or page	Specify another value in the *Size* prompt.
Rotate the overlay or page	Specify 90, 180, or 270 in the *Degree of rotation* prompt.
Not to print shift-out and shift-in characters as blanks	Specify N in the *DBCS SO/SI spacing* prompt.
Print the overlay or page to a distant position from the page origin	Specify the offset value in the *Offset* prompt.
Print grids with the overlay or page layout to help your design work	This is done on another display. • To print grids with an overlay, specify Y in the *Include grid* prompt on the Create Overlay display. • To print grids with a page layout, specify Y in the *Include grid* prompt on the Print Database File Member display.
Change the pitch of the grid	Specify the value in the *Grid* prompt.

Tasks Related to Font

Note: The following description assumes that you are on one of the following displays:

The Work with Source Overlay Fonts display
The Work with PFD Definition Fonts display

Task	How to Do the Task
View current definitions	1. Enter 5.

Task	How to Do the Task
Specify a font with a font and character identifier	1. Enter 2. 2. Enter 1.
Specify a font with a coded font	1. Enter 2. 2. Enter 2.
Specify a font with a code page and a font character set	1. Enter 2. 2. Enter 3.
Return a font to the initial font	1. Enter 9.

Task Related to Printout Specifications

Note: The following description assumes that you are on the Define Printout Specifications display.

Task	How to Do the Task
Print more than one copy	Specify the number in the *Copies* prompt.
Print even though there are some errors	Specify *CONTENT in the *Print fidelity* prompt.
Print as good of quality as possible	Specify *NLQ in the *Print quality* prompt.
Print as fast as possible	Specify *DRAFT in the *Print quality* prompt.
Print on both sides of the paper	Specify Y in the *Duplex* prompt.
Inform the operator to change the form when it is printed	Specify a form name in the *Form type* prompt.
Use the paper in an alternate drawer	Specify a number in the range of 2-255, *E1, or *CUT in the *Source drawer* prompt.
Print an overlay with the printout	Specify the overlay name in the *Front side overlay* prompt.
Print a different overlay on the other side of paper with the printout	Specify the overlay name in the *Back side overlay* prompt.

Task Related to Mapping Object

Note: The following description assumes that you are on the Specify Mapping Object Name display.

Task	How to Do the Task
Specify mapping object name	1. Select the object type you want to specify the mapping. 2. Specify the pair of the database field value and the object name to which the field value should be mapped.

Task Related to Break Fields

Note: The following description assumes that you are on the Specify Break Fields display.

Task	How to Do the Task
Specify field in the list as a break field.	Enter 1 on the *Opt* field.
Cancel a break field in the list.	Clear the *Opt* field with a blank.

Appendix F. Portability to Other Systems

The IBM Advanced Function Printing Utilities for AS/400 generates AFPDS for resources (overlays and page segments) and spooled files. AFPDS is compatible between the AS/400 and other systems such as MVS, VM, and DOS/VSE. Therefore the resources and spooled files created by the IBM Advanced Function Printing Utilities for AS/400 can be basically used on other systems that support AFPDS resources and spooled files except with the following restrictions.

Even though you avoid all these restrictions, there may be cases when you cannot print the resources or spooled files correctly. You should verify that the printout is satisfactory when it is printed on other systems.

The IBM Advanced Function Printing Utilities for AS/400 Version 2 Release 3 and later releases has the function to convert overlay objects and page segments on the AS/400 system to physical database files which can be used on VM, MVS, or the OS/2 system. You can send the converted files to those systems using the communication function or the Clinet Access for AS/400 on the AS/400 system.

Note: The IBM Advanced Function Printing Utilities for AS/400 does not provide the functions to send the resources and spooled files from the AS/400 system.

Restrictions

IPDS Towers

The IBM Advanced Function Printing Utilities for AS/400 uses the following IPDS data-type towers:

Data type	IPDS tower
Text	PT1 PT2
IM image	IM1
IO image	IO1 (IOCA function set 10)
Graphics	DR1 DR2
Bar codes	BC1 (for printer type 1, 2, 3, 9) PT1 (for printer type 4, 5, 6)

If the resource contains an IPDS tower that is not supported by the target printer, the resource cannot be used. For example, you cannot use resources containing bar code (BC1 tower) on the 3820 printers.

To avoid this restriction, you should specify only those printers that support the print towers used in the overlay specifications or the PFD specifications.

PT2 Tower (Underline and Overstrike)

If you specify `Y` for the *Underline* prompt or a character for the *Overstrike* prompt on the Define Text Detail display or the Define Box Detail display, the IBM Advanced Function Printing Utilities for AS/400 generates PT2 tower data stream for the text.

You can print it on printers that do not support the PT2 tower if the printer is attached to the AS/400 system, because the PT2 data stream is converted to the

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corresponding PT1 data stream if necessary. However, you can not print it on printers that do not support PT2 tower if the printer is attached to systems other than the AS/400 system, because the PT2 to PT1 conversion is not supported.

Fonts

There are two kinds of fonts. The first kind of font resides in the printer and is specified with the font and character identifier. You can specify this kind of font by specifying 1 for the *Font type* prompt on the Change Source Overlay Font display or the Change PFD Definition Font display.

The other kind of font resides on the AS/400 system that the printer is attached to as resident fonts. The printer, when it requires a font, issues a font download request to the AS/400 system for the required font or fonts. After this request, the AS/400 system downloads the fonts to the printer. These fonts are specified with coded font name or a pair of the code page name and the character set name. You can specify the font by selecting 2 or 3 for the *Font type* prompt on the Change Source Overlay Font display or the Change PFD Definition Font display.

Not all printers support both kinds of fonts. If the resource contains a font that is not supported by the target printer, the resource cannot be used. For example, you cannot use the first kind of font (printer resident) on the 3820 printers.

You may use a printer even though you specify an incompatible font, if the printer is attached to the AS/400 system, because fonts are substituted if necessary. However, you can not print it on the same printer if the printer is attached to systems other than the AS/400 system, because the font substitution is not supported.

Note: Font substitution is supported by other systems from the following release. You can avoid this restriction by using the following releases:

- PSF/MVS Version 2 Release 1 or later
- PSF/VM Version 2 Release 1 or later

It is your responsibility to verify that the fonts you specified are substituted correctly.

Other systems may not have the same font resources as the AS/400 system. You cannot print overlays or spooled files if the necessary font resources do not reside in the other system. It is your responsibility to verify that the fonts you specified reside in the system and are the same as the AS/400 system.

Page Segments

If you include page segments in overlays or spooled files, you also have to send those page segments to the target system.

PSF (Print Service Facility)

The support level of AFPDS structured fields depends on the system and the release of PSF*. It is your responsibility to verify that your release level of PSF supports AFPDS structured field used in its resources (overlays and page segments) and spooled files.

Appendix G. Sample Overlays and Sample PFD Definitions

Some samples of overlays and PFD definitions are shipped with the AFP Utilities for OS/400 program. They are copied in the QGPL library automatically when you install the AFP Utilities for OS/400 program.

Sample Overlays

Some samples of overlays are provided. The overlays can be used instead of the preprinted forms for the IBM AS/400 Distributors Management Accounting System (DMAS) and the Manufacturing Accounting and Production Information Control System/Database (MAPICS*/DB).

You can copy the source overlays from library QGPL, change the newly created source overlays, and create new overlays for your AS/400 application programs. For example, you can include the company name in the overlay.

You should choose a source overlay file for your printer from the following list:

Source Overlay File	Description
QAFCXMPOV1	Sample overlays for the 4224, the 4234, and the 4230 printer
QAFCXMPOV2	Sample overlays for the 3812 and the 3816 printer
QAFCXMPOV3	Sample overlays for the 3916 and the 4028 printer
QAFCXMPOV4	Sample overlays for the other printers

Some sample source overlays are not contained in all source overlay files due to certain printer restrictions such as the maximum size of the overlay.

Note: These samples have not been thoroughly tested under all conditions. It is your responsibility to change source overlays if necessary.

DMAS Forms

The overlays for DMAS (IBM AS/400 DISTRIBUTORS MANAGEMENT ACCOUNTING SYSTEM) preprinted forms are provided. DMAS is actually made up of the following 10 program products:

```
5728-D48 Accounts Payable
5728-D42 Accounts Receivable
5728-D41 Billing
5728-D4X Cross Application System Support
5728-D47 General Ledger
5728-D43 Inventory Control
5728-D46 Inventory Management
5728-D45 Purchasing
5728-D44 Sales Analysis
5728-D49 Payroll
```

The following source overlays are provided:

Source Overlay	Description
DMAS_XMP_1	Accounts Payable remittance advice
DMAS_XMP_2	Delinquency notice
DMAS_XMP_3	Purchase order

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MAPICS/DB Forms

The overlays for MAPICS/DB (Manufacturing Accounting and Production Information Control/Data Base) preprinted forms are provided. MAPICS/DB is actually made up of the following 18 program products:

```
5728-M7X Cross Application Support
5728-M73 Accounts Payable
5728-M74 Accounts Receivable
5728-M7G Capacity Planning
5728-M7H Financial Analysis
5728-M7L Forecasting
5728-M77 General Ledger
5728-M75 Inventory Management
5728-M7J Master Production Schedule Planning
5728-M7B Material Requirements Planning
5728-M79 Order Entry and Invoicing
5728-M72 Payroll
5728-M76 Product Data Management
5728-M7I Production Control and Costing
5728-M7S Production Monitoring and Control
5728-M7K Purchasing
5728-M7R Repetitive Production Management
5728-M78 Sales Analysis
5706-287 Manufacturing Performance Analysis
```

The following source overlays are provided:

Source Overlay	Description
MPCS_XMP_1	Invoice type 1 form
MPCS_XMP_2	Invoice type 2 form
MPCS_XMP_3	Purchase order

Sample PFD Definitions

Some samples of PFD definitions and database files are provided. The PFD definitions would be used to print bar code labels for standard labels.

You can copy the PFD definitions from library QGPL, change the newly created PFD definitions, and print your bar code labels. For example, you can include your company name in the label.

You should choose a PFD definition file for your printer from the following list:

PFD Definition File	Description
QAFCXMPPF1	Sample overlays for the 4224, the 4234, and the 4230 printer
QAFCXMPPF2	Sample PFD definitions for the 3812 and the 3816 printer
QAFCXMPPF3	Sample PFD definitions for the 3916 and the 4028 printer
QAFCTUTPFD	AFP Utilities for AS/400 tutorial PFD file
QAFCTUTXMP	Sample PFD File with tutorial example

Some sample PFD definitions are not contained in all PFD definition files due to certain printer restrictions such as the maximum size of the overlay.

Note: These samples have not been thoroughly tested under all conditions. It is your responsibility to change PFD definitions if necessary.

AIAG (Automotive Industry Action Group) Labels

The following PFD definitions for AIAG labels are provided.

PFD Definition	Description
AIAG_B2_HA	AIAG-B2 (Vehicle ID Number Label) Horizontal bar code with HRI above
AIAG_B2_HB	AIAG-B2 (Vehicle ID Number Label) Horizontal bar code with HRI below
AIAG_B3_SP	AIAG-B3 Shipping/Parts Identification Number Label
AIAG_B3_ML	AIAG-B3 Master Label
AIAG_B3_LL	AIAG-B3 Mixed Load Label
AIAG_B4_PL	AIAG-B4 Part Label
AIAG_B4_PT	AIAG-B4 Part and Traceability data on a single line
AIAG_B4_PD	AIAG-B4 Part, Traceability data, and supplier on a separate line
AIAG_B5_PM	AIAG-B5 Primary Metals Identification Tag

The following database files are provided as input files for the sample PFD Definitions:

File Name	Record Format	Description
QAFCXMPAI2	VINLBL	Sample database file (AIAG_B2)
QAFCXMPAI3	SPILBL	Sample database file (AIAG_B3)
QAFCXMPAI4	IPLBL	Sample database file (AIAG_B4)
QAFCXMPAI5	SMPILBL	Sample database file (AIAG_B5)

EIA (Electronic Industries Association) Labels

The following PFD definitions for EIA labels are provided:

PFD Definition	Description
EIA_SMPL_1	Single Order Label (Single Product/Single Package)
EIA_SMPL_2	Mixed Load Label (Single Order/Multiple Product ID's)
EIA_SMPL_3	Multiple Order Label (Multiple Orders/Single Product ID)
EIA_SMPL_4	Multiple Load Label (Multiple Orders/Multiple Product ID's)

The following database file is provided as an input file for the sample PFD Definitions:

File Name	Record Format	Description
QAFCXMPEIA	SHPLBL	Sample database file (EIA)

AFP Utilities Tutorial PFD Definitions

The following PFD definitions are provided as part of the AFP Utilities tutorial.

PFD Definition	Description
TUTORIAL	Entire tutorial
TUTOR10	Overview - Topics covered in the tutorial
TUTOR20	Create Source Overlay file and Source Overlay
TUTOR25	Create Source Overlay
TUTOR30	Create the database file and add data with DFU
TUTOR32	Create the database file - no data
TUTOR40	Add data to the database file with DFU
TUTOR50	Create PFD File, Create and Change a PFD
TUTOR55	Create a PFD Definition
TUTOR57	Change a PFD Definition
TUTOR60	Print PFD Data
TUTOR70	Copy a PFD Definition
TUTOR80	Convert a page segment to a physical file member
TUTOR90	Convert a physical file member to a page segment

The following database files are provided as an input files for the AFP Utilities tutorial.

File Name	Record Format	Description
QAFCTUTDBF	FORMAT1	SAMPLE DATABASE FILE FOR TUTORIAL
QAFCTUTOR	TUTORTXT	AFPU TUTORIAL TEXT

Appendix H. Code 128 Character Set

Character	Hex	Character	Hex	Character	Hex	Character	Hex
NUL	00	.	4B	i	89	I	C9
SOH	01	<	4C	FNC 1	8F	}	D0
STX	02	(	4D	j	91	J	D1
ETX	03	+	4E	k	92	K	D2
HT	05	|	4F	l	93	L	D3
VT	0B	&	50	m	94	M	D4
FF	0C	!	5A	n	95	N	D5
CR	0D	$	5B	o	96	O	D6
SO	0E	*	5C	p	97	P	D7
SI	0F	)	5D	q	98	Q	D8
DLE	10	;	5E	r	99	R	D9
DC1	11	—	60	~	A1	\	E0
DC2	12	/	61	s	A2	S	E2
DC3	13	,	6B	t	A3	T	E3
BS	16	%	6C	u	A4	U	E4
CAN	18	-	6D	v	A5	V	E5
EM	19	>	6E	w	A6	W	E6
GS	1D	?	6F	x	A7	X	E7
RS	1E	‘	79	y	A8	Y	E8
US	1F	:	7A	z	A9	Z	E9
FS	22	#	7B	^	B0	FNC 2	EA
LF	25	@	7C	[	BA	0	F0
ETB	26	'	7D	]	BB	1	F1
ESC	27	=	7E	FNC 4	BE	2	F2
ENQ	2D	”	7F	{	C0	3	F3
ACK	2E	a	81	A	C1	4	F4
BEL	2F	b	82	B	C2	5	F5
SYN	32	c	83	C	C3	6	F6
EOT	37	d	84	D	C4	7	F7
DC4	3C	e	85	E	C5	8	F8
NAK	3D	f	86	F	C6	9	F9
SUB	3F	g	87	G	C7	FNC 3	FA
SP	40	h	88	H	C8	DEL	FF

Note: The printer or AFP Utilities for AS/400 generate all START, STOP, SHIFT, and CODE characters in order to produce the shortest bar code possible from the given data.

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Appendix I. Font Samples

This appendix presents a sampling of various fonts provided by IBM. Refer to *IBM AFP Fonts: Font Samples* for a more complete description and illustration of fonts provided by IBM.

Times New Roman Medium

FONT NAME	Point Size	Character Set
Times New Roman Medium 6pt	6	C0N20060
Times New Roman Medium 7pt	7	C0N20070
Times New Roman Medium 8pt	8	C0N20080
Times New Roman Medium 9pt	9	C0N20090
Times New Roman Medium 10pt	10	C0N20000
Times New Roman Medium 11pt	11	C0N200A0
Times New Roman Medium 12pt	12	C0N200B0
Times New Roman Medium 14pt	14	C0N200D0
Times New Roman Medium 16pt	16	C0N200F0
Times New Roman Medium 18pt	18	C0N200H0
Times New Roman Medium 20pt	20	C0N200J0
Times New Roman Medium 24pt	24	C0N200N0
Times New Roman Medium 30pt	30	C0N200T0
Times New Rom Med 36pt	36	C0N200Z0

Figure 60. Times New Roman Medium

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Helvetica Roman Bold

FONT NAME	Point Size	Character Set
Helvetica Roman Bold 6pt	6	C0H40060
Helvetica Roman Bold 7pt	7	C0H40070
Helvetica Roman Bold 8pt	8	C0H40080
Helvetica Roman Bold 9pt	9	C0H40090
Helvetica Roman Bold 10pt	10	C0H40000
Helvetica Roman Bold 11pt	11	C0H400A0
Helvetica Roman Bold 12pt	12	C0H400B0
Helvetica Roman Bold 14pt	14	C0H400D0
Helvetica Roman Bold 16pt	16	C0H400F0
Helvetica Roman Bold 18pt	18	C0H400H0
Helvetica Roman Bold 20pt	20	C0H400J0
Helvetica Roman Bold 24pt	24	C0H400N0
Helvetica Roman Bold 30pt	30	C0H400T0
Helvetica Rom Bld 36pt	36	C0H400Z0

Figure 61. Helvetica Roman Bold

Courier

FONT NAME	Point Size	Character Set
Courier Roman Medium 7pt	7	C0420070
Courier Roman Medium 8pt	8	C0420080
Courier Roman Medium 10pt	10	C0420000
Courier Roman Medium 12pt	12	C04200B0
Courier Roman Medium 14pt	14	C04200D0
Courier Roman Medium 20pt	20	C04200J0
Courier Roman Bold 7pt	7	C0440070
Courier Roman Bold 8pt	8	C0440080
Courier Roman Bold 10pt	10	C0440000
Courier Roman Bold 12pt	12	C04400B0
Courier Roman Bold 14pt	14	C04400D0
Courier Roman Bold 20pt	20	C04400J0
Courier Italic 7pt	7	C0430070
Courier Italic 8pt	8	C0430080
Courier Italic 10pt	10	C0430000
Courier Italic 12pt	12	C04300B0
Courier Italic 14pt	14	C04300D0
Courier Italic 20pt	20	C04300J0
Courier Italic Bold 7pt	7	C0450070
Courier Italic Bold 8pt	8	C0450080
Courier Italic Bold 10pt	10	C0450000
Courier Italic Bold 12pt	12	C04500B0
Courier Italic Bold 14pt	14	C04500D0
Courier Italic Bold 20pt	20	C04500J0

Figure 62. Courier Font Samples

Glossary

advanced function printing (AFP). The ability of programs to use the all-points-addressable concept to print text and images on a printer.

advanced function printing data stream (AFPDS). In AFP support, the printer data stream used for printing advanced function printing data. The AFPDS includes composed text, page segments, electronic overlays, form definitions, and fonts that are downloaded from the AS/400 system to the printer.

AFP. See *advanced function printing (AFP)*.

AFP resources. The form definitions, page definitions, fonts, overlays (electronic forms), and page segments (graphic images). With PrintManager, resources can either exist in a system library, or be placed inline with a print job as the job is written to the spool.

AFPDS. See *advanced function printing data stream (AFPDS)*.

all authority. An object authority that allows the user to perform all operations on the object except those limited to the owner or controlled by authorization list management authority. The user can control the object's existence, specify the security for the object, and change the object. Contrast with *exclude authority*.

all-points-addressable. In AFP support, pertaining to the capability to address, refer to, and position text, overlays, and images at any defined point on the printable area of the paper.

application. A particular business task, such as inventory control or accounts receivable.

application program. A program used to perform a particular data processing task, such as inventory control or payroll.

ascending sequence. The arrangement of data in order from the lowest value to the highest value, according to the rules for comparing data. Contrast with *descending sequence*.

authorization list. A list of two or more user IDs and their authorities for system resources. The system-recognized identifier for the object type is *AUTL.

bar code. A pattern of bars of various widths containing data to be interpreted by a scanning device.

batch. Pertaining to a group of jobs to be run on a computer sequentially with the same program with little or no operator action. Contrast with *interactive*.

batch job. A predefined group of processing actions submitted to the system to be performed with little or no interaction between the user and the system. Contrast with *interactive job*.

bin. In AFP support, the standard-size paper source on the IBM 3820.

block edit function. In AFP Utilities, a function that moves, copies, or removes all elements defined in a specified scope on the image area at one time.

box. In AFP Utilities, a continuous line constructing a rectangle.

break field. In AFP Utilities, the field which causes a page break. When the Print Format Utility encounters the record whose value of the specified field in the record are not equal to that of the previous record, page break occurs.

byte. (1) The smallest unit of storage that can be addressed directly. (2) A group of 8 adjacent bits. In the EBCDIC coding system, 1 byte can represent a character. In the double-byte coding system, 2 bytes represent a character.

change authority. An object authority that allows a user to perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can add, change, and delete entries in an object, or read the contents of an entry in the object. Change authority combines object operational authority and all the data authorities.

character. Any letter, number, or other symbol in the data character set that is part of the organization, control, or representation of data.

character set. A group of characters used for a specific reason; for example, the set of characters the display station can display, the set of characters a printer can print, or a particular set of graphic characters in a code page; for example, the 256 EBCDIC characters.

character string. A sequence of consecutive characters that are used as a value.

characters per inch (cpi). The number of characters printed horizontally within an inch across a page.

check digit. The far right number of a self-check field used to verify the accuracy of the field.

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CL. See *control language (CL)*.

code page. (1) A particular assignment of hexadecimal identifiers to graphic characters. (2) In AFP support, a font file that associates code points and graphic character identifiers.

code-page ID. A 5-digit registered identifier used to specify a particular assignment of code points to graphic characters. The code-page ID is the second part of the QCHRID system value or the CHRID parameter value. See also *graphic character-set ID*.

code point. (1) One of the bit patterns assigned to a character in a character set. On the AS/400 system, a code point is represented by a hexadecimal number. For example, in code page 256 (EBCDIC), the letter “e” is assigned a code point of hex 85. (2) In AFP support, an 8-bit binary number representing one of 256 potential characters.

coded font. In AFP support, a font file that associates a code page and a font character set. For double-byte fonts, a coded font associates multiple pairs of code pages and font character sets.

command. (1) A statement used to request a function of the system. A command consists of the command name abbreviation, which identifies the requested function, and its parameters. starts a protocol.

command line. The blank line on a display where commands, option numbers, or selections can be entered.

command prompt. A displayed character (or string of characters) that indicates that a user may enter a command to be processed.

compatibility. Ability to work in the system or ability to work with other devices or programs.

completion message. A message that tells the operator when work is successfully ended.

concatenate. To join two character strings.

concept. An abstract idea.

contextual help. Help that explains the field on which the cursor is positioned when you press the Help key. Contrast with *extended help*.

control field. In AFP Utilities, an input field on the screen view that is used to move the image area up, down, left, or right.

control language (CL). The set of all commands with which a user requests system functions.

control language (CL) program. A program that is created from source statements consisting entirely of control language commands.

cpi. See *characters per inch (cpi)*.

current library. The library that is specified to be the first user library searched for objects requested by a user. The name for the current library can be specified on the Sign-On display or in a user profile. When you specify an object name (such as the name of a file or program) on a command, but do not specify a library name, the system searches the libraries in the system part of the library list, then searches the current library before searching the user part of the library list. The current library is also the library that the system uses when you create a new object, if you do not specify a library name.

current release. The latest available release of the system that replaced the licensed internal code and/or the operating system.

cursor. A movable symbol, often a blinking or solid block of light, that tells the display station user where to type, or identifies a choice to select.

data area. A system object used to communicate data, such as CL variable values between the programs within a job and between jobs. The system-recognized identifier for the data area is *DTAARA.

data integrity. (1) The condition that exists as long as accidental or intentional destruction, alteration, or loss of data does not occur. (2) Within the scope of a unit of work, either all changes to the database management systems are completed or none of them are. The set of change operations are considered an integral set.

data management. The part of the operating system that controls the storing and accessing of data to or from an application program. The data can be on internal storage (for example, database), on external media (diskette, tape, or printer), or on another system.

data stream. All information (data and control commands) sent over a data link usually in a single read or write operation.

data tower. In AFP Utilities, a set of intelligent printer data stream commands that represent a data type, such as text, image, graphics, and bar code.

database. All the data files stored in the system.

database file. One of several types of the system object type *FILE kept in the system that contains descriptions of how input data is to be presented to a program from internal storage and how output data is to

be presented to internal storage from a program. See also *physical file* and *logical file*.

DBCS. See *double-byte character set (DBCS)*.

DBCS conversion. A function of the operating system that allows a DBCS display station user to enter alphanumeric data and request that the alphanumeric data be converted to double-byte data.

default. A value that is automatically supplied or assumed by the system or program when no value is specified by the user.

diagnostic. Pertaining to the detection and isolation of an error.

digit. Any of the numerals from 0 through 9.

document. Any collection of text or other strings of data. All documents and folders on a single AS/400 system make up the document library. A document can contain any type of data stored in it by an application. For example, the &ofcv. application can store notes, memos, reports, and other items; the &pcs. shared folders application can store any data that could otherwise be stored in a PC file; an AS/400 application can store any data into a document by using CL commands, such as FILDOC and RPLDOC. The system-recognized identifier for the document object type is *DOC.

document name. The 1- through 12-character name for documents in folders, assigned by the user when creating the document. Contrast with *library-assigned document name* and *document object name*.

double-byte character. An entity that requires two character bytes.

double-byte character set (DBCS). A set of characters in which each character is represented by 2 bytes. Languages such as Japanese, Chinese, and Korean, which contain more symbols than can be represented by 256 code points, require double-byte character sets. Because each character requires 2 bytes, the typing, displaying, and printing of DBCS characters requires hardware and programs that support DBCS. Four double-byte character sets are supported by the system: Japanese, Korean, Simplified Chinese, and Traditional Chinese. Contrast with *single-byte character set*.

double-byte coded font. In AFP support, a font in which the characters are defined by 2 bytes: the first defining a coded font section, the second defining a code point. Synonymous with double-byte font. Contrast with *single-byte coded font*.

draft. A printed copy of a document that is not yet completed.

duplex. (1) Pertaining to communications in which data can be sent and received at the same time. Contrast with *half-duplex*. (2) In AFP support, pertaining to printing on both sides of a sheet of paper. Contrast with *simplex*.

edit. To interactively add, change, delete, or rearrange the data; for example, to insert or remove characters, sentences, or paragraphs, or to insert or remove characters in dates or decimal numbers.

EIA. Electronic Industries Association.

electronic overlay. An AFP resource object that is a collection of predefined data, such as lines, shading, text, boxes, or logos, that can be merged with variable data on a page while printing. The system-recognized identifier for the object type is *OVL.

element. (1) In a list of parameter values, one value. (2) Either a bar or a space in a bar of a bar code. (3) In AFP Utilities, the smallest unit, such as text, an image, or a bar code, used to design an AFP resource like an electronic overlay. See also *element mark* and *element name*.

element mark. In AFP Utilities, a mark that is used to show the position of an element on a display; for example, '*B005' where B means bar code and 005 is the fifth element. See also *element* and *element name*.

element name. In AFP Utilities, a name that appears in the image area instead of an element mark. See also *element* and *element mark*.

exclude authority. An object authority that prevents the user from using the object or its contents. Contrast with *all authority*.

extended help. Help that explains the purpose of the display. Extended help appears if the user presses the Help key when the cursor is outside the areas for which contextual help is available. Contrast with *contextual help*.

fidelity. In AFP support, the degree of exactness required when processing the input data stream for printing a file. Different levels of fidelity can be specified, which determine how errors are handled (such as substituting fonts when a font named in the data stream cannot be found).

field. A group of related bytes (such as name or amount) that is treated as a unit in a record.

file. (1) A generic term for the object type that refers to a database file, a device file, or a save file. The system-recognized identifier for the object type is *FILE. (2) In the hierarchical file system, a piece of related information (data), such as a document.

file description. The description of a file and its contents.

file list. A list of files contained in a library.

file name. The name used by a program to identify a file. See also *label*.

file type. A data type that allows the program to read input and write output in &pascal..

fixed data. In AFP Utilities, an element in the record layout and page layout that has a constant value. Contrast with *variable data*.

font. (1) An assortment of characters of a given size and type style. (2) A particular style of type (for example, Bodini or Times Roman) that contains definitions of character sets, marker sets, and pattern sets.

font character set. In AFP support, a font file that contains the raster patterns, identifiers, and descriptions of characters.

font ID. A number that identifies the character style and size for certain printers.

font resource. A resource object on the AS/400 system that is required to print AFPDS documents on a printer. The three types of font resources are coded fonts, character sets, and code pages. The system-recognized identifier for the object type is *FNTRSC.

form. In AFP support, a physical sheet of paper on which data is printed. Synonymous with medium, physical page, and sheet.

form definition. An AFP resource object that defines the characteristics of the printed media; for example, overlays to be used, text suppression, position of page data on the form, and number and modifications of a page. The system-recognized identifier for the object type is *FORMDF.

form type. A 10-character identifier, assigned by the user, that identifies each type of form used for printed output.

format. (1) A defined arrangement of such things as characters, fields, and lines, usually used for displays, printouts, files, or documents. (2) The arrangement or layout of fields in a record. (3) The arrangement or layout of data on a storage medium, such as disk, tape, or diskette.

function. (1) Any instruction or set of related instructions that perform a specific operation.

function key. A keyboard key that allows the user to select keyboard functions or programmer functions. Contrast with *character key*.

GDF (Graphics Data Format). Advanced Function Printing Utilities/400 can create an AFP resource, such as an electric overlay and the spooled file using GDF.

general-purpose library. The library shipped with the system that contains IBM-provided objects required for many system functions and user-created objects that are not explicitly placed in a different library when they are created. Named QGPL.

generic. Relating to, or characteristic of, a whole group or class.

generic name. (1) The characters common to object names that can be used to identify a group of objects. A generic name ends with an asterisk (*). For example, ORD* identifies all objects whose names begin with the characters ORD. (2) In the hierarchical file system, a path name that contains one or more wildcard characters.

graphic character. A character that can be displayed or printed. Contrast with *control character*.

graphic character set. A set of graphic characters in a code page.

graphics. (1) In Advanced Function Printing Utilities/400, graphics data can be placed in a source overlay, a record layout, and a page layout. (2) Pictures and illustrations. (3) Pertaining to charts, tables, and their creation.

grid. In AFP Utilities, horizontal and vertical lines printed on an AFP resource, such as an electronic overlay, to help in the design of the AFP resource.

hardware. Physical equipment, rather than programs, procedures, rules, and associated information.

hide function. In AFP Utilities, a function on the screen view used to display elements hidden by other elements that were specified after the hidden elements and in the same or approximate position as the hidden elements.

HRI. See *human readable interpretation (HRI)*.

human readable interpretation (HRI). In AFP Utilities, the characters printed above or below a bar code. These characters are read by people, not by scanners.

IBM Advanced Function Printing Utilities/400 Version 2. The IBM licensed program that provides AFP functions on the AS/400 system. It is composed of the following menu-driven interactive utilities: overlay

utility, print format utility, and resource management utility.

IBM AS/400 Manufacturing, Accounting,and Production Information Control System I (MAPICS I). The IBM licensed program that provides a set of twelve integrated applications including financial, order processing, and manufacturing packages.

IBM Operating System/400 Version 2 (OS/400). Pertaining to the IBM licensed program that can be used as the operating system for the AS/400 system.

IBM Client Access for AS/400. The IBM licensed program that provides system functions to an attached personal computer.

identifier. (1) The name of something. (2) A sequence of bits or characters that identifies a user, program, device, or system to another user, program, device, or system.

image. An electronic representation of an original document recorded by a scanning device.

image area. In AFP Utilities, an area on the display where the image of an AFP resource is displayed when a user designs the resource. See also *key entry area*.

image data stream. An advanced function printing data stream that represents image data. See also *IO1* and *IM1*.

Image Object Content Architecture (IOCA). A defined data stream used to store raster image data. The images in a Mixed Object:Document Content Architecture document are stored using IOCA. See also *IO1* and *Mixed Object:Document Content Architecture*.

IM1. A data tower of an intelligent printer data stream that represents image data. See also *IO1*.

index search. A searchable part of the online help information that provides “how-to” and explanatory topics to supplement the help for specific displays. The system-recognized identifier for the object type is *SCHIDX.

IMDS. The Image Data Stream (IOCA). Advanced Function Printing Utilities/400 can create the page segment from IMDS. See image Object Content Architecture (IOCA) and IO1.

input field. A field specified in a display file or database file that is reserved for information supplied by a user. Contrast with *output field*.

integrity. See *data integrity*.

intelligent printer data stream (IPDS). An all-points-addressable data stream that allows users to position text, images, and graphics at any defined point on a printed page.

interactive. Pertaining to the dialog-like exchange of information between people and a computer. Contrast with *batch*.

IOCA. See *Image Object Content Architecture (IOCA)*.

IO1. A data tower of an intelligent printer data stream that represents image data. Both IM1 and IO1 represent a raster pattern, but IO1 commands provide additional functions. See also *IM1* and *Image Object Content Architecture (IOCA)*.

IPDS. See *intelligent printer data stream (IPDS)*.

job. A unit of work to be done by a computer.

job description. A system object that defines how a job is to be processed. The object name is *JOBD.

job log. A record of requests submitted to the system by a job, the messages related to the requests, and the actions performed by the system on the job. The job log is maintained by the system program.

job name. The name of the job as identified to the system. For an interactive job, the job is assigned the name of the work station at which the job was started; for a batch job, the name is specified in the command used to submit the job. Contrast with *qualified job name*.

Kanji. Characters originating from the Chinese characters used in the Japanese written language.

key entry area. In AFP Utilities, an area shown at the lower part of the image area for entering the parameters for an element. See also *image area*.

label. (1) The name of a file on a diskette or tape. (2) An identifier of a command or program statement generally used for branching.

leader. The blank section of tape at the beginning of a reel.

library. (1) A system object that serves as a directory to other objects. A library groups related objects, and allows the user to find objects by name. The system-recognized identifier for the object type is *LIB. Compare with *folder* and *document library*. (2) The set of publications for a system.

library list. A list that indicates which libraries are to be searched and the order in which they are to be searched. The system-recognized identifier is *LIBL.

library name. A user-defined word that names a library.

licensed program. A separately orderable program, supplied by IBM, that performs functions related to processing user data. Examples of licensed programs are &pcs., &cobol., &adtool., &ofcv., and so on.

lines per inch (lpi). The number of characters that can be printed vertically within an inch.

list view. In AFP Utilities, the presentation of a display shown while a user is in list edit mode. See also *screen view*.

logo. (1) A letter, combination of letters, or symbol used to represent an entire word (abbreviation for logogram). (2) The display that identifies the IBM Corporation and the program name on licensed programs.

lpi. See *lines per inch (lpi)*.

mapping. A representation of one thing to another.

mapping object. A function of AFP Utilities to map a database field value to an object name.

mark. See element mark.

matrix. An arrangement in rows and columns.

member. Different sets of data, each with the same format, within one database file. See also *source member*.

menu. A displayed list of items from which a user can make a selection. The system-recognized identifier for the object type is *MENU.

merge. (1) To insert records throughout a single output file. (2) To combine overrides for a file from the first call level up to and including a greater call level, producing the override to be applied when the file is used.

message. A communication sent from a person or program to another person or program.

message line. An area on the display where messages are displayed.

message queue. A list on which messages are placed when they are sent to a user ID or device description. The system-recognized identifier for the object type is *MSGQ.

migration. The process of moving data and source from one computer system to another without converting the data.

module width. In AFP Utilities, the basic element width used in a bar code. The actual code element may be a module width or a multiple of a module width.

object. A named storage space that consists of a set of characteristics that describe itself and, in some cases, data. An object is anything that exists in and occupies space in storage and on which operations can be performed. Some examples of objects are programs, files, libraries, and folders.

object description. The characteristics (such as name, type, and owner name) that describe an object.

object existence authority. An object authority that allows the user to delete the object, free storage of the object, save and restore the object, transfer ownership of the object, and create an object that was named by an authority holder.

object operational authority. An object authority that allows the user to look at the description of an object and use the object as determined by the user's data authorities to the object. See also *all authority* and *use authority*.

offset. The distance from the beginning of an object to the beginning of a particular field, or for substring operations, the number of character positions from the beginning of a field.

online information. Information on the display screen that explains displays, messages, and programs.

operation. The result of processing statements in a high-level language.

output. Information or data received from a computer that is shown on a display, printed on the printer, or stored on disk, diskette, or tape.

output queue. An object that contains a list of spooled files to be written to an output device, such as a printer or a diskette. The system-recognized identifier for the object type is *OUTQ.

overlay. (1) To write over (and therefore destroy) an existing file. (2) A program segment that is loaded into main storage and replaces all or part of a previously loaded program segment. (3) For AFP support, see *electronic overlay*.

overlay utility. In AFP Utilities, an interactive tool that allows the user to create an overlay.

override. (1) To specify attributes at run time that change the attributes specified in the file description or in the program. (2) The attributes specified at run time that change the attributes specified in the file description or in the program.

overstrike. Pertaining to a character or symbol that occupies the same space as another character or symbol.

owner. The user who creates an object (or is named the owner of an object).

page. (1) One printer form. (2) To move information up or down on the display.

page break. In AFP Utilities, there is the field which causes a page break. When the Print Format Utility encounters the record whose value of the specified field in the record are not equal to that of the previous record, the Print Format Utility prints the record on a new page. This condition is called as 'page break'.

page down. To move up the data shown on the display, which allows the user to move toward the end of the data. Contrast with *page up*.

page layout. In AFP Utilities, a printout format of a page in the printout format definition (PFD). By using the print format utility, the user can design the page layout by placing and repeating a predefined record layout with constant data. See also *record layout*.

page segment. An AFP resource object that can contain text and images and can be positioned on any addressable point on a page or an electronic overlay. The system-recognized identifier for the object type is *PAGSEG.

page up. To move down the data shown on the display, which allows the user to move toward the beginning of the data. Contrast with *page down*.

panel. In UIM, a visual presentation of data on the screen.

parameter. A value supplied to a command or program that is used either as input or to control the actions of the command or program.

parity. The state of being either even-numbered or odd-numbered. A parity bit is a binary number added to a group of binary numbers to make the sum of that group either always odd (odd parity) or always even (even parity).

PC file. A file stored on a personal computer.

pending. Pertaining to a request that was submitted and that is awaiting processing.

PFD. See *printout format definition (PFD)*.

PFU. See *print format utility (PFU)*.

place operation. In AFP Utilities, an operation that defines a page segment or a record layout in an AFP resource.

point. (1) The second byte of a DBCS code, which uniquely identifies double-byte characters in the same ward. Contrast with *ward*. (2) In AFP support, a unit of measurement used mainly for describing type sizes. Each pica has 12 points, and an inch has approximately 72 points.

print format utility (PFU). In AFP Utilities, a utility that allows a user to print a database file member in various formats without writing any programs.

print text. An option that allows the user to specify a line of text at the bottom of a list.

printer file. A device file that determines what attributes printed output will have. A particular printer may or may not support all of the attributes specified in a printer file.

printer writer. A system program that writes spooled files to a printer.

printout format definition (PFD). In AFP Utilities, a file member that contains information about the record layout, page layout, record selection, and database file name. A PFD is used to print the records of a database file member in various formats.

private authority. The authority specifically given to a user for an object that overrides any other authorities, such as the authority of a user's group profile or an authorization list. Contrast with *public authority*.

problem analysis. The process of finding the cause of a problem. For example, a program error, device error, or user error.

program. A sequence of instructions that a computer can interpret and run.

prompt. A reminder or a displayed request for information or user action. The user must respond to allow the program to proceed.

public authority. The authority given to users who do not have any specific (private) authority to an object, who are not on the authorization list (if one is specified for the object), and whose group profile has no specific authority to the object. Contrast with *private authority*.

QGPL. See *general-purpose library*.

qualified name. The name of the library containing the object and the name of the object. Contrast with *object name*.

queue. A list of messages, jobs, files, or requests waiting to be read, processed, printed, or distributed in a predetermined order.

read authority. A data authority that allows the user to look at the contents of an entry in an object or to run a program. See also *add authority*, *delete authority*, and *update authority*.

record. A group of related data, words, or fields treated as a unit, such as one name, address, and telephone number.

record format. A named part of a file that identifies records of a specified record format description.

record layout. In AFP Utilities, a part of the printout format definition that defines how each field of a database file record is formatted and printed by the print format utility. See also *page layout*.

record selection. The process of selecting particular records from a file and including the information from the records, for example, in a report.

remote. Pertaining to a device, system, or file that is connected to another device, system, or file through a communications line. Contrast with *local*.

reserved variable data. The following data is called as 'reserved variable data', and can be printed as text on the record layout in the same manner as printing variable data from the database file.

- Job date
- Job time
- Page number
- Record number
- Database file name
- Library name
- Member name

resolution. In computer graphics, a measure of the sharpness of an image, expressed as the number of lines per unit of length or the number of points per unit of area discernible in that image.

resource. Any part of the system required by a job or task, including main storage, devices, the processing unit, programs, files, libraries, and folders.

resource management utility (RMU). In AFP Utilities, an interactive tool used to maintain AFP resources.

resource name. A name assigned by the system to a line, controller, or device that is connected to the system.

restore. To copy data from tape, diskette, or a save file to auxiliary storage. Contrast with *save*.

RMU. See *resource management utility (RMU)*.

save. To copy specific objects, libraries, or data by transferring them from main or auxiliary storage to magnetic media such as tape, diskettes, or a save file. Contrast with *restore*.

SBCS. See *single-byte character set (SBCS)*.

screen view. In AFP Utilities, the presentation of a display shown while a user is in screen edit mode. See also *list view*.

sequence number. (1) The number of a record that identifies the record within the source member. (2) A field in a journal entry that contains a number assigned by the system. This number is initially 1 and is increased by 1 until the journal is changed or the sequence number is reset by the user.

session. The length of time that starts when a user signs on at a display station and ends when the user signs off. location.

simplex. In AFP support, pertaining to printing on only one side of the paper. Contrast with *duplex*.

single-byte character set (SBCS). A character set in which each character is represented by a one-byte code. Contrast with *double-byte character set*.

single-byte coded font. In AFP support, a font in which the characters are defined by a 1-byte code point. A single-byte coded font has only one coded font section. Synonymous with single-byte font. Contrast with *double-byte coded font*.

source overlay. In AFP Utilities, a file member that contains the definition of an overlay.

specific authority. The types of authority a user can be given to use the system resources, including object authorities and data authorities. See also *object authority* and *data authority*. Contrast with *special authority*.

spool. The system function of putting files or jobs into disk storage for later processing or printing.

spooled file. A file that holds output data waiting to be processed, such as information waiting to be printed. Also known as *spooled output file*.

step. To cause a computer to run one operation.

store. To put or keep data in a storage device.

summary data. The following data is called as 'summary data':

- The field value of the first record in the group.
- The field value of the last record in the group.

- The total of the field values in the group.
- The average of the field values in the group.
- The minimum field value in the group.
- The maximum field value in the group.
- The record counts of the group.

They can be printed on the following element in the page layout:

- Text data on text element
- Text data on box element

syntax. The rules for constructing a command or statement.

system unit. A part of a computer that contains the processing unit, and may contain devices such as disk units and tape units.

table. An orderly arrangement of data in rows and columns that can contain numbers, text, or a combination of both. The system-recognized identifier for the object type is *TBL.

use authority. An object authority that allows the user to run a program or to display the contents of a file. Use authority combines object operational authority and read authority.

variable data. In AFP Utilities, an element in the record layout whose value is represented in the database file. Contrast with *fixed data*.

wide-to-narrow ratio. In AFP Utilities, the ratio of the wide element dimension to the narrow element dimension of a bar code. See also *element*.

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